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# A Natural Heritage STRATEGY *for the* Lake Ontario Greenway





# A Natural Heritage STRATEGY

## *for the* **Lake Ontario Greenway**

prepared by  
the Natural Heritage Work Group  
for the Waterfront Regeneration Trust  
December 1995



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## NATURAL HERITAGE WORKGROUP

Ron Reid	Work Group Chair and principal author of the Natural Heritage Strategy, Bobolink
Irene Rota	Coordinator, Waterfront Regeneration Trust
Brenda Axon	Halton Region Conservation Authority
Glen Hooper	Ministry of Natural Resources
Steve Hounsell	Ontario Hydro
Noel Hutchinson	City of Oshawa
Rob Nisbet	Durham Field Naturalists/Federation of Ontario Naturalists
Marion Plaunt	Niagara Escarpment Commission
Kevin Williams	City of Oshawa

## CREDITS

Cover	
photo	Waterfront Regeneration Trust
sketches	Aleta Karstad

Inside photos	
title page, Chapter 1, 3	Metro Toronto & Region Conservation Authority
title page, Chapter 2	Waterfront Regeneration Trust
title page, Chapter 4	Verna Higgins
title page, Chapter 5	Hough Woodland Naylor Dance
title page, Chapter 6	Ric Symmes
title page, Appendix	Sheila Creighton

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Commissioner  
The Honourable David Crombie, P.C.

Deputy Commissioner  
David A. Carter

Commissaire  
L'honorable David Crombie, p.c.

Sous-commissaire  
David A. Carter

December 1995

Dear Colleague,

I am pleased to provide a copy of *A Natural Heritage Strategy for the Lake Ontario Greenway*.

This document was prepared by the Natural Heritage Work Group, in support of the *Lake Ontario Greenway Strategy*. It identifies a natural heritage system of core areas, corridors and restoration areas, associated ecological functions and processes, as well as strategies to protect, restore and enhance the ecological components of the Lake Ontario Greenway.

This document represents the opinion of the authors and not necessarily that of the Trust.

I hope that agencies and communities along the Greenway will find this report helpful and timely. Any comments or questions can be directed to Suzanne Barrett, Director of Environmental Studies at the Waterfront Regeneration Trust.

Thanks, as always, for your continued interest and involvement in this work.

Sincerely,

David Crombie

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CHAPTER



# The Challenge

For millenia, the dynamic interactions of land and water along the Lake Ontario shore have created a variety of specialized landforms and plant communities, and supported an exceptional diversity of wildlife. On the other hand, the opportunities afforded by the water's edge have attracted the largest concentration of urban development in Canada. No part of today's waterfront is unaffected by human disturbance, and some sections have been seriously degraded.

Recognition of these values and conflicts has led to calls for action. At the international level, Great Lakes coastal environments are cited as priorities for conservation. At the bioregional level, the Lake Ontario shoreline is identified as a significant landform to be protected as part of a greenlands system. At the local level, remnant natural areas along the lakeshore are highly valued by Ontario residents, with demands that they be protected and restored.

One mechanism for addressing these values and conflicts is the Lake Ontario Greenway Strategy. The Greenway encompasses the lands and waters that show a direct ecological, cultural or economic connection to the waterfront from Burlington Bay to the Trent River. It extends into the lake, generally to the 10 metre depth within which most of the nearshore coastal processes and fishery activities occur. Inland, the Greenway generally extends to the first significant rise in elevation, which often corresponds to the former Lake Iroquois

shoreline. Where significant natural areas extend up major river valleys, they are usually included within the Greenway.

The challenge within the Greenway is clear – how to regenerate the ecological integrity of the shoreline area to a sustainable state, within the constraints and opportunities posed by a rapidly urbanizing region.

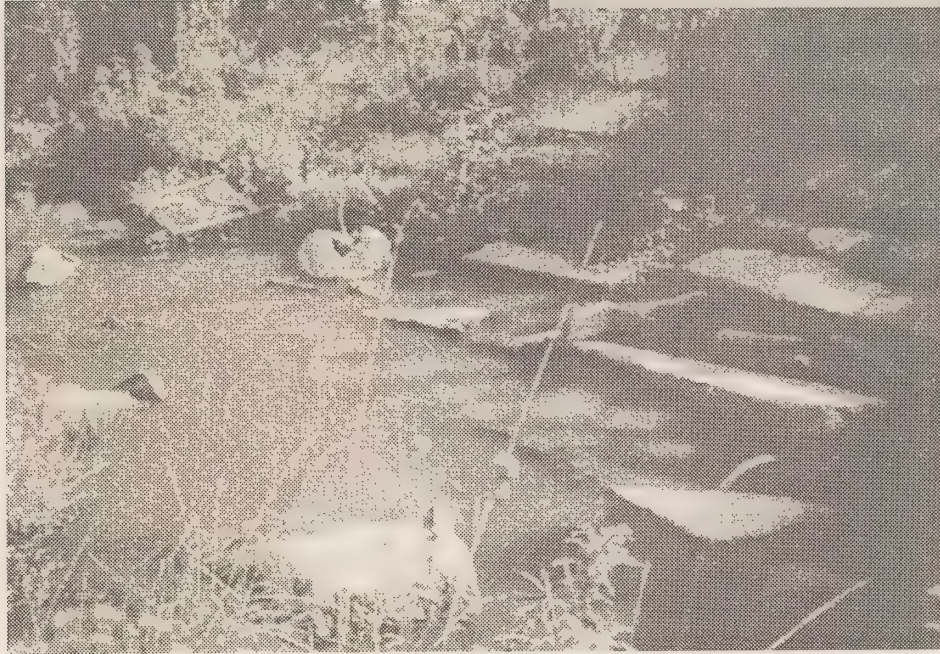
To meet this challenge, it is necessary to approach the Lake Ontario Greenway in the context of three broad steps:

- First,** identify the ecological processes and functions which are essential to the health of the waterfront ecosystem, and assess how those functions are related to the structure and composition of the landscape, both at a bioregional scale (particularly in the context of watersheds) and the immediate waterfront scale (see chapters 3 and 4);
- Second,** identify an integrated natural heritage system to conserve and renew those vital processes and functions (see chapter 5); and
- Third,** outline strategies to effectively implement protective and restorative actions through public policy, securement of key areas, private land management, and other avenues (see chapter 6).



CHAPTER

2



# Types of Stresses within the Greenway



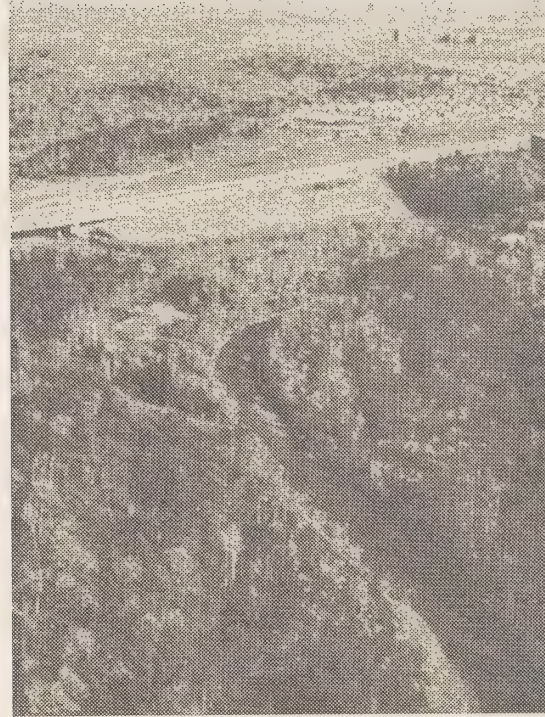
A variety of human-related stresses currently affect the natural areas and ecological functions of the Lake Ontario Greenway, including:

- ◆ Direct habitat loss, through the conversion of terrestrial habitats to urban uses, highways, pits and quarries, agricultural use, or recreation areas, and through the dredging or filling of shallow waters or wetlands;
- ◆ Impaired habitat quality, through poorly managed logging or pasturing of woodlots, changes in hydrology or nutrient levels, or indirect effects of nearby urbanization such as excessive human trampling or predation by domestic pets;
- ◆ Fragmentation of habitats, including the breaking up of large habitat blocks into smaller fragments, and the severing of regional or local landscape connections;
- ◆ Modifications to the water's edge, including extensive hardening of the shoreline with protection works, and creation of new shorelines through lakefill projects;
- ◆ Degraded water, air, and soil quality, through a variety of pollutants;
- ◆ Introduction of exotic species, which now comprise 30% of the vascular flora, and form the bulk of aquatic biomass; and
- ◆ Changes in climate, which are now known to occur in the urban heat island, and which may have more widespread effects in future through global warming.



CHAPTER

3



# The Bioregional Context

The Lake Ontario Greenway forms a part of a larger landscape known as the Greater Toronto Bioregion. This wedge-shaped area, bounded by the Niagara Escarpment to the west and the Oak Ridges Moraine to the north, includes the watersheds draining south into Lake Ontario from Burlington Bay to the Trent River. It corresponds roughly to Ecodistrict 4 within the Erie Ecoregion, as defined by Wickware and Rubec in the *Ecoregions of Ontario* (1989).

In general terms, the Bioregion is characterized by a drumlinized and bevelled clay moraine plain which is weakly broken in the northern sections and weakly to moderately broken along the shores of Lake Ontario. Forest cover is mostly deciduous, with sugar maple, beech, and oak on upland sites, and white elm, eastern cottonwood, balsam poplar, red and black ash, and silver maple on imperfectly drained soils. Elements of Carolinian forest at its northern limit are found across the Bioregion, but are most strongly expressed in the southwestern sections.

The Niagara Escarpment and the Oak Ridges Moraine play an important role in groundwater recharge and stream source areas; most streams are of excellent quality in their headwaters, with water quality gradually deteriorating as they pass through urban areas on their way to the lake.

Much of the Bioregion is heavily urbanized, especially in the southwestern section. The remainder is mostly agricultural in nature, with significant blocks of forest, including considerable conifer plantation, on the Oak Ridges Moraine, Northumberland Hills, and Niagara Escarpment. Many of the major stream valleys retain considerable forest cover, except near their mouths where urban activities have been concentrated.

Within the context of this Bioregion, the Greenway has been defined as a relatively narrow band of land and water that is directly influenced by its relationship to the Lake Ontario shoreline.

Along the length of this Greenway, there is considerable variability in the nature of the landscape and the type and intensity of

land uses. In large measure, these differences are not confined to the relatively narrow waterfront zone, but rather are part of larger patterns that extend across the Bioregion. These patterns are illustrated on Map 1 which includes a series of bioregional landscape units incorporating the Lake Ontario and former Lake Iroquois shorelines.

Definition of these landscapes was based initially on the extent and patterns of forest cover. However, a number of other characteristics also relate closely to the bioregional landscapes, including landform and soil types, topography, and land use. The ecological values associated with the landscape are also closely linked to the extent and patterns of habitat present in each unit. These characteristics are summarized in Table 1.

Ideally, the development of a Natural Heritage System for the Greenway would take place within the context of a comprehensive analysis of the adequacy of the supply of habitats across the entire Bioregion, and of the habitat connections necessary to ensure ecological sustainability. However, this type of analysis is not yet available. It is possible, based on a preliminary overview of the Bioregion, to identify several factors that deserve special attention:

- ◆ The hydrological, habitat block, and habitat connection values of the Niagara Escarpment and Oak Ridges Moraine are extremely important at the bioregional scale. A strategy to regenerate the waterfront must recognize the relationships between the health of the waterfront and these landscape elements, both in terms of water quality and for short and long-term species movement.
- ◆ Valley corridors provide the major conduits for species movement north and south throughout the Bioregion, including seasonal fish spawning, bird and butterfly migration, and dispersal of species into new or impoverished habitats. Maintaining or improving the connectivity of riparian, valley slope, and associated upland habitats along these valley corridors is essential to the regeneration of the







**TABLE 1: CHARACTERISTICS OF BIOREGIONAL LANDSCAPES**

Landscape	Landform	Streams	Shoreline Character				Forest Cover			Habitat Notes
			Substrate	Profile	Current	Edge	%	Pattern	Interior	
Grindstone	beaches, shale plain	deeply incised	sand	convex	sheltered	bluff, beach armoured	16.3	Escarpment slopes and valleys	one small area 0.1%	Staging, wintering habitat for migrant birds and waterfowl; Grindstone Creek is major corridor.
Halton Plain	till plain	deeply incised	shale bedrock	convex	minimal, to the west	low bluff, armoured	4.9	river valleys, Lake Iroquois shoreline	none	Bronte and Sixteen Mile Creeks are major corridors; migratory bird staging along shoreline and offshore.
Credit Valley	shale and till plain	deeply incised	shale bedrock	convex	minimal, to the west	shingle beach armoured	10.8	valley slopes	none	Remnant marshes at Rattray and lower Credit; Credit valley is major corridor.
Peel Plain	bevelled till plain	shallow valleys	shale bedrock	convex	minimal, to the west	shingle beach armoured	0.6	valley remnants	none	Migrant use of remnant areas, waterfowl staging offshore.
Humber Valley	beaches, till plain	moderately incised	silt and muck	buried valley	minimal	former beach armoured	4.3	valley sides	none	Remnant marsh in lower valley; High Park forests have significant habitats.
Toronto	till plain, beaches	small, modified	former beaches	convex	minimal	former beach armoured	0.4	remnants	none	Very heavily modified.
Don Valley	sand plain	moderately to deeply incised	sand	convex	sheltered	heavily armoured	3.8	valley sides	none	Don valley is major corridor; Tommy Thompson Park lakefill has created new habitat.
Scarborough	fine-grained till	none	fine-grain till	concave	to the west	high bluff, 60% armour	0.5	along bluffs	none	Bluffs are significant earth science resource; corridor for migrant birds.
Highland Creek	sand plain	deeply dissected	cobble/ boulder	convex	to the east	low bluff	6.3	in valley	0.1%	Valley has major block of forest habitat; East Point has rare species.
Rouge-Duffins	sand plain, some clay plain	deeply dissected	cobble/ boulder	convex	to the east	beach	19.5	valley, Lake Iroquois shoreline	0.2%	Rouge valley is major habitat node; Rouge-Duffins corridor provides strong habitat linkages.
Pickering – Ajax	drumlinized clay plain	shallow broad valleys	cobble/ boulder	convex	to the east	low bluff, barrier beach	3.4	valleys, poorly drained areas	none	Several significant lakeshore marshes.
Whitby – Oshawa	drumlinized clay plain	shallow broad valleys	cobble/ boulder	convex	to the east	beach and headland	1.2	valley	none	Several significant lakeshore marshes.

**TABLE 1: CHARACTERISTICS OF BIOREGIONAL LANDSCAPES** (continued)

Landscape	Landform	Streams	Shoreline Character				Forest Cover			Habitat Notes
			Substrate	Profile	Current	Edge	%	Pattern	Interior	
Bowmanville	clay plain	moderately dissected	cobble/boulder	convex	to the east	beach and headland	1.6	valleys	none	Several important valley corridors and lakeshore marshes.
Orono	sand plain	dissected	—	—	—	—	24.0	slopes and seepages	0.1%	Acts as east-west forest corridor.
Bond Head	till plain	deeply dissected	cobble/boulder	convex	to the east	high bluff	21.8	valleys and upland	0.6%	Bluffs of geological interest; strong habitat corridors.
Port Hope – Cobourg	drumlinized clay plain	moderately incised	limestone bedrock	convex	to the east	cobble beach, low bluff	4.6	valleys and wetland	none	Extensive lakeside marshes.
Wicklow	sand plain, drumlins	moderately to deeply incised	limestone bedrock	convex	to the east	cobble, beach low bluff	22.1	valleys, lowland, Lake Iroquois shore	0.3%	Major forested corridors along valleys and east-west.
Brighton	sand and clay plain	low gradient, poorly defined	limestone bedrock	convex	to the east	cobble and sand beach	18.3	wetlands	0.5%	Presqu'île Point is major node; extensive shoreline wetlands; valley corridors are good fish habitat.
Murray Hills	sands and gravels	moderately to deeply dissected	—	—	—	—	29.5	slopes and valleys	1.0%	Extensive pine-oak forest; source areas for streams.

Source: Ontario Hydro Forest Cover Data (1991); Chapman, L. J., and Putnam, D. F. 1984. *The Physiography of Southern Ontario*

waterfront. As well, minimizing the water quality and quantity impacts of land use activities in watersheds feeding into these valleys is an important factor in maintaining the future health of riverine and lake habitats.

- ◆ East-west connections to provide species dispersal and to assist in migratory movements are also vital, but are much more vulnerable to disruption than the valley corridors. Use of tablelands for agricultural and urban activities has impaired many of these connections south of the Moraine, and highlights the importance of those that remain.

- ◆ Some habitat types within the Bioregion are clearly in short supply, although at this stage only the most obvious shortfalls can be identified. One such habitat is wetlands, which are known to be greatly reduced from their former extent throughout the Bioregion, and which have been reduced by an estimated 60% along the Lake Ontario shore. Another habitat in very short supply is interior forest – among the 19 landscape units in the southern section of the Bioregion, only three have more than 0.5% interior forest, and 11 have no interior forest at all (using a 200 metre edge criterion).

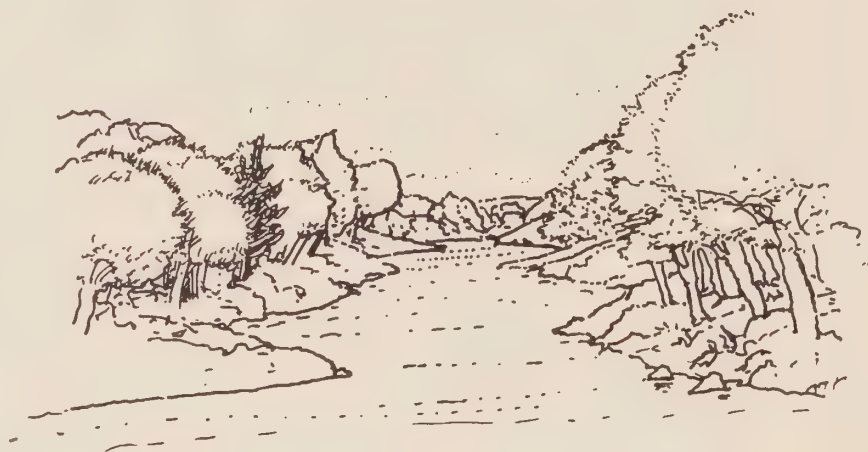


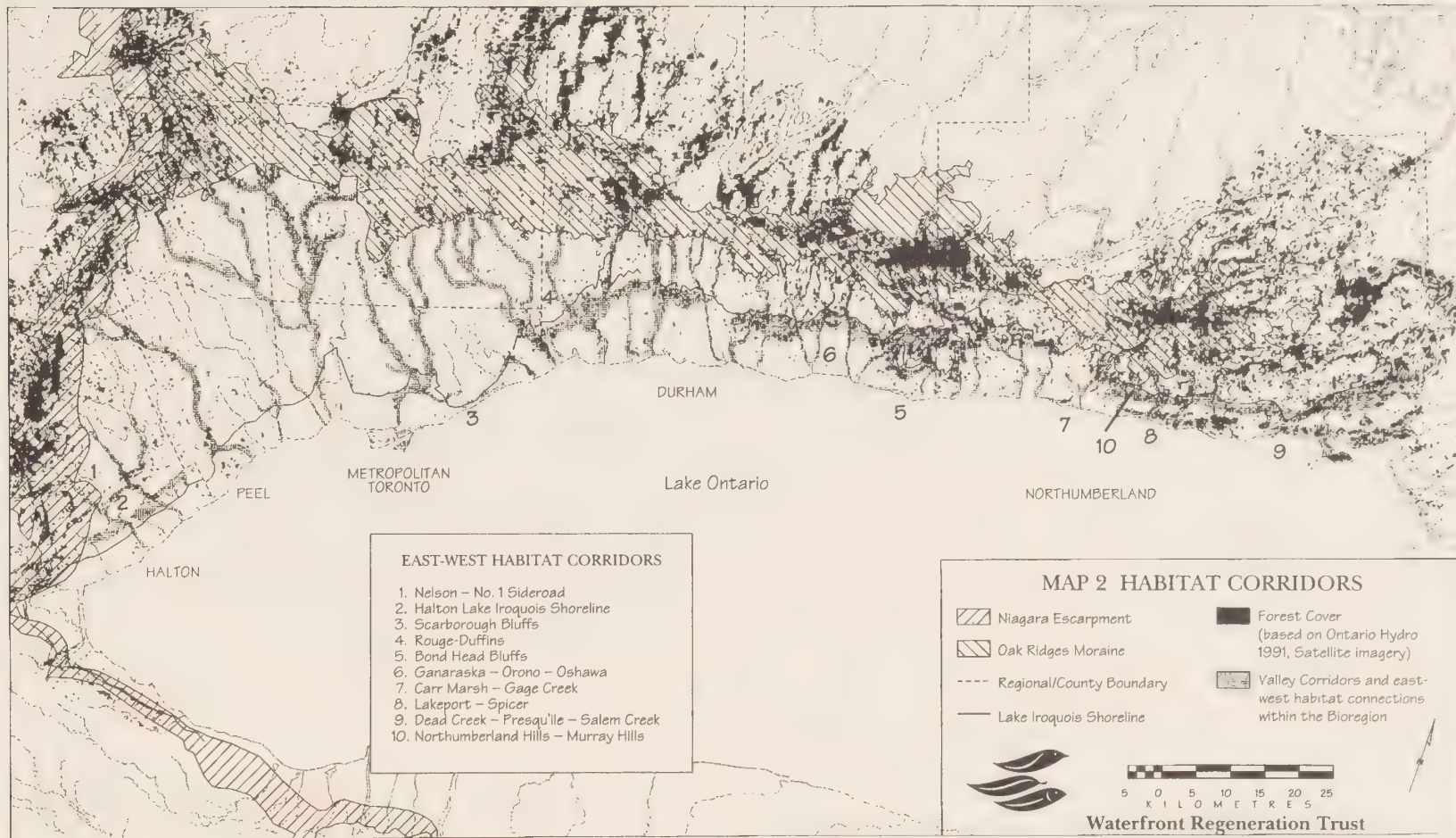
Both the Niagara Escarpment and the Oak Ridges Moraine have been recognized as landscape features of provincial significance, and programs are underway to protect their values. Other elements of the bioregional landscape should be identified for protection and restoration within the Lake Ontario Greenway Strategy and/or in future initiatives for greenlands across the Bioregion. These elements should include:

- ◆ Major east-west habitat corridors (see Map 2), including corridors with a high priority for restoration, such as:
  - the Nelson – No. 1 Sideroad and Lake Iroquois shoreline corridors in Halton, which although discontinuous, provide the best opportunities for east-west connections in this part of the Bioregion;
  - several sections of shoreline which provide corridor functions, including Scarborough Bluffs, Bond Head Bluffs, and the Carr Marsh – Gage Creek Marsh area;
  - the Rouge – Duffins (Altona) corridor, again along the Lake Iroquois shoreline, which provides the last opportunity for east-west connections in a rapidly urbanizing landscape;
  - the Ganaraska – Orono – Oshawa corridor, which follows the Lake Iroquois shoreline and provides forested connections across a largely agricultural landscape;
  - the Lakeport – Spicer corridor, which incorporates strong connections among blocks of lowland forest habitat;
  - the Northumberland Hills – Murray Hills corridor, which has a mosaic of upland forest blocks and coldwater source areas

clustered along the former Lake Iroquois shoreline, and which connects as well to the Cold Creek valley forests just to the north; and

- the Dead Creek – Presqu'île – Salem Creek corridor, which provides a high degree of connection among blocks of wetland and forest habitat parallel to the shore.





In addition, the following stream valleys connect between the waterfront and the Escarpment, the Oak Ridges Moraine, or wooded sections of the Lake Iroquois shoreline, and should be recognized as bioregional corridors:

Grindstone Creek	Bowmanville Creek
Bronte Creek	Soper Creek
Fourteen Mile Creek	Wilmot Creek
Sixteen Mile Creek	Graham Creek
Credit River	Port Granby Creek
Etobicoke Creek	Wesleyville Creek
Mimico Creek	Port Britain Creek
Humber River	Ganaraska River
Don River	Gage Creek
Highland Creek	Cobourg Creek
Rouge River	Lucas Point Creek
Petticoat Creek	Barnum House Creek
Duffins Creek	Shelter Valley Creek
Carruthers Creek	Colborne Creek
Lynde Creek	Salem Creek
Oshawa Creek	Butler Creek
Farewell Creek	Smithfield Creek
Tooley Creek	

Among these 35 valley corridors, four provide connections to the Niagara Escarpment, 16 to the Oak Ridges Moraine, and 15 primarily to the Lake Iroquois shoreline.



CHAPTER

4



# Ecological Values within the Greenway

As noted above, the Lake Ontario Greenway includes only that section of the Bioregion directly associated with the waterfront, in a band reaching from 2-5 km inland. In addition to the broad bioregional values outlined above, this waterfront area has certain special ecological functions and values that contribute to its unique nature.

While not comprehensive, the following list includes the most notable ecological values associated with the Greenway:

- ◆ The wind and waves associated with the waterfront have created and continue to modify a variety of dynamic landforms and vegetation communities, including **specialized landforms and communities** (such as beaches, dunes, shorecliffs) associated with current and previous Great Lakes shorelines.



- ◆ Lands and waters along the Greenway provide habitats for a large **diversity of species**, including vascular plants (1510 species), birds (165 breeding species), mammals (47 species), herptiles (34 species), and fish (47 species), together with hundreds of species of insects and other invertebrates. Included among these are many species that are threatened or vulnerable within the Greenway or in the Bioregion, and specialized communities with Carolinian, prairie, and Great Lakes shoreline affinities.
- ◆ Wetlands, streams and shallow waters along the lakeshore provide critical **breeding destinations** for fish, amphibians, and birds which disperse broadly into the surrounding environment, as well as important **staging and wintering** areas for a large number of species of migratory birds and butterflies.
- ◆ Many areas along the waterfront act as **ecological buffers**, dampening the erosive effect of streams and lakes on adjacent landscapes, and in turn capturing sediments and nutrients from those landscapes before they enter the lake.
- ◆ In some places, the patterning of woodlands or marsh habitats within the Greenway provides large blocks and corridors that can act as **source areas** for species and genetic replenishment of adjacent areas, or as **linkages** between similar habitats.

A five-step process of analysis was undertaken to identify areas along the waterfront where these ecological values occur.

- First,** all known information on natural areas in a roughly 4 kilometre band along the waterfront was compiled and evaluated, with some field work carried out in the eastern section of the Greenway where there was little existing information (Brownell, 1993).

**Second,** the Shoreline Management Work Group identified and characterized aquatic habitats.

**Third,** each of these natural areas was reviewed by the Natural Heritage Work Group and Shoreline Management Work Group against a set of evaluation criteria (see Table 2). A total of 117 areas which fulfilled at least two of the criteria were identified as Significant Natural Areas (see Appendix 1 for criteria met). The application of the criteria identified areas that are considered significant in the context of the Lake Ontario waterfront and the Bioregion.

**Fourth,** after the *Comprehensive Set of Policy Statements* (May 1994) for the Province and the draft *Implementation Guidelines* (September 1994) for those policies were released, the Significant Natural Areas already identified were reviewed again to ensure that the intent of those policies had been met. This resulted in the addition of several river valleys, woodlands, and potential corridors, together with areas with restoration activities underway or planned (see Appendix 1).

**Fifth,** as the northern boundaries of the Greenway were clarified, some of the natural areas further inland were excluded from further detailed consideration.

As a result of this analysis, natural areas within the Greenway were identified as Waterfront Natural Areas if they:

- qualified as a Significant Natural Area; or
- fell within one of the bioregional corridors listed above; or
- were identified as active habitat restoration areas.

These Waterfront Natural Areas are listed and mapped in Appendix 1.

Within the *Lake Ontario Greenway Strategy* and *Next Steps* documents, detailed information including Waterfront Natural Areas is presented in the context of 14 landscape units, which are based on a blending of terrestrial and shoreline biophysical characteristics.





**TABLE 2: EVALUATION CRITERIA FOR SIGNIFICANT NATURAL AREAS WITHIN THE LAKE ONTARIO GREENWAY**

a. Landform representation, rarity and diversity:

*The area contains at least one of the following:*

*landforms or earth science features that are rare along the waterfront, in the region, Ontario, or Canada;*

*characteristic landscapes that contain high quality representative examples of bedrock, surface landforms, and soils;*

*a high diversity of landforms.*

b. Hydrological function:

*The area contributes to regional hydrological systems through ground or surface storage or protection and enhancement of water quality, and it is considered regionally or provincially significant in terms of hydrological function.*

c. Vegetation community representation and diversity:

*The area offers a significant contribution to a system of examples of vegetational community types and associations that are characteristic of the waterfront; or contains an exceptionally high diversity of vegetational community types or associations.*

d. Vegetation community rarity:

*The area contains vegetation community types or associations that are rare (vulnerable) in the waterfront, Site Region, Ontario and/or Canada.*

e. Quality of habitats and communities:

*The area contains a large percentage of high quality vegetation community classes, types or associations, or fish habitat with high potential value.*

f. Species diversity:

*The area contains a high diversity of vascular plant taxa or fish or wildlife species relative to other natural areas in the waterfront and/or Ontario.*

g. Species of concern:

*The area supports at least one of the following:*

*one provincially and/or nationally significant species; or*

*one species listed in Riley (1989), Cuddy (1991) or Cadman (1992); or*

*three or more species that are rare (vulnerable) along the waterfront (as defined by Brownell, 1993).*

h. Habitat for seasonal concentrations of wildlife:

*The area serves as a breeding, shelter, or feeding site for seasonal concentrations of wildlife or fish as recognized by OMNR or other reliable source.*

i. Area size, shape and buffering capacity:

*The area is large relative to other natural areas found along the waterfront, is compact in shape and has a high buffering capacity. If it occurs in the eastern portion of the waterfront (from Newcastle to Trenton), it must exceed 150 ha; in the rest of the waterfront it must exceed 100 ha.*

j. Linkage and clustering:

*The area provides an important linkage between two Significant Natural Areas, provides a known seasonal linkage for fish movement, or forms a large cluster or core area with several other natural areas along the waterfront.*

For additional information on how these criteria were applied, see Brownell (1993).

CHAPTER

5



# Natural Heritage System

## 5.1 Objectives:

A Natural Heritage System for the Lake Ontario Greenway must be related to the protection and restoration of the significant ecological functions occurring there. It should identify measures that together will conserve the biodiversity of the waterfront, along with the ecological processes that sustain biodiversity.

The goal of a Natural Heritage System for the Greenway can be expressed as:

*To ensure an adequate supply of habitats to restore and sustain in the long term the full range of biodiversity along the waterfront.*

This goal is more fully outlined in the following objectives:

- ◆ To protect and restore the full range of lakeshore landforms and vegetation communities, including all high-quality sites, and replication of representative sites wherever possible.
- ◆ To prevent the extirpation or decline of native species and communities within the Greenway, and to contribute to restoring vulnerable species and communities to sustainable levels and distribution.
- ◆ To protect, enhance and restore habitats of significant seasonal use by wildlife for breeding, staging, or wintering.
- ◆ To enhance the buffering capability of the waterfront landscape to reduce negative impacts on water quality and natural areas.
- ◆ To maintain and restore source areas for species dispersal and genetic replenishment by protecting large self-sustaining habitat blocks and bioregional corridors.

## 5.2 Structure of a Natural Heritage Strategy

In order to effectively implement these objectives, a Natural Heritage Strategy has been developed to form a central part of the broader Greenway Strategy. The Natural Heritage Strategy identifies a series of natural core areas, corridors, and restoration areas within the Greenway, as well as identifying the nature of local links within the landscape. The Strategy is based largely on the Waterfront Natural Areas identified in chapter 4 and Appendix 1.

In essence, the Strategy identifies an interconnected mosaic of habitats needed to carry out its goal and objectives, and then describes how the existing inventory of natural habitats (both already designated and potential) fits within those needs. Where the existing supply of habitats is clearly inadequate, the role of restoration projects becomes more important, and the Strategy provides guidelines for identifying sites for restoration.

### 5.2.1 Role and Definition of Natural Core Areas

Natural Core Areas are the basic building blocks of the Natural Heritage System. They are defined to carry out the following roles:

- ◆ protect the most significant natural habitats;
- ◆ provide at least the most immediate habitat needs for all the elements of biodiversity present, including rare species and communities, and area-sensitive species;
- ◆ protect relatively large, self-sustaining blocks of habitat which can act as source areas for adjacent areas; and



- ◆ provide representation of the fullest possible range of landforms and biotic communities.

As shown in Appendix 1, Natural Core Areas form the sub-set of Waterfront Natural Areas that carry out the above roles.

## 5.2.2 Role and Definition of Corridors

In the context of this Natural Heritage Strategy, corridors are considered to be landscape elements that carry out a regional function (such as bird migration, for example) rather than strictly a local role (such as connecting a mole salamander's summer habitat to a local breeding pond). The roles of these corridors could be summarized as:

- ◆ protect habitat connections for the passage of migratory birds, butterflies, and fish;
- ◆ provide landscape connections to effectively increase the range of resident predator and large mammal populations;
- ◆ provide dispersal corridors for the movement and repopulation of forest and wetland species;
- ◆ protect potential linkages for future range shifts due to climate change;
- ◆ protect habitat for a wide diversity of species that can tolerate nearby human activity.

As well, many of the more substantial corridors carry out the ecological roles identified for Natural Core Areas. The one defining difference in those cases is the linear nature of corridors, which often continue beyond the Greenway (as in the case of river valleys).

Landscape corridors can also have adverse effects in some settings, by aiding the spread of fire, pest outbreaks, or exotic species, or by luring wildlife species into areas where predation or other mortality results in a net drain on populations. To avoid these negative effects, it is important that new regional corridors be designed with care, and that potential effects in habitats to be connected are studied beforehand. While all corridors function better if they are substantial in width, in urban settings even narrow corridors can be beneficial for common species, and in most cases the enhancement or restoration of former corridors should be encouraged.

In general terms, corridors are delineated to include those Waterfront Natural Areas and connecting habitats that are linear in nature, together with potentially revegetated areas that link or border natural areas and provide ecological functions such as habitat, passage, hydrological flow, connection, or buffering from adjacent impacts.

## 5.2.3 Role and Definition of Restoration Areas

Natural habitats in much of the Greenway are fragmented and isolated. If biodiversity over the long term is to be maintained or enhanced, restoration of the quality and extent of habitats and of habitat connections will be essential. While there are a few examples of restoration activities along the waterfront now, primarily in wetland and aquatic habitats, there are many opportunities for future restoration projects.

Ecological restoration is defined as “returning a level of integrity, resilience, and biological diversity to land its life processes that have been seriously disturbed or destroyed, usually by human intervention. Restoration is essentially a process that begins with

natural systems, but which recognizes the necessity of human intervention" (Hough Stansbury Woodland Naylor Dance, 1994).

Based on a general overview of the waterfront sections of bioregional landscapes, several types of habitats emerge as priorities for restoration activity:

- ◆ native forest cover, especially interior forest, along essentially all of the waterfront from Cobourg west;
- ◆ shoreline and estuarine wetland habitats, especially those which provide aquatic connections for fish as well as wildlife staging benefits;
- ◆ valley corridors where the continuity of natural habitats has been severed, especially near valley mouths; and
- ◆ specialized Great Lakes shoreline communities, which exist in very limited supply.



Restoration can be approached in two categories - general landscape restoration, and restoration projects targeted at specific community types or species.

Within the **general** category, it would be useful to set targets that relate to the need to sustain ecological functions in the landscape, such as:

- ◆ a minimum of **50%** forest and other natural vegetation within the lower reaches of major valley corridors in the long term (most are now in the 4-10% range of forest cover; Ministry of Natural Resources has suggested a target of 75% forest cover in upper reaches);
- ◆ a long-term target of at least **10%** forest and natural vegetation within urban landscapes (now ranges from 0.4-5% forest cover); and
- ◆ an objective of **no net loss** of forest cover within rural landscapes, with substantial gains in those which provide regional linkage functions or forest interior habitat.

These targets are not meant to be definitive, but rather to provide an approximation of the natural vegetation thought to be necessary to sustain ecological functions over the long term in various settings. They also represent a judgement by the Natural Heritage Work Group on what might be achievable. In some urban areas, reaching a 10% target will have to rely on creative use of small habitat fragments, since finding a land base for larger blocks will be difficult.

As the science of landscape ecology matures, it may become possible to establish more definitive and research-based targets. Research in this area should be actively encouraged.

One of the aims of restoration and enhancement programs should be a diverse mix of habitat types and conditions across landscape units, in close association with underlying landforms. On upland sites, for example, the landscape should provide a range from

old field communities to mature and “old-growth” forest (broadly expressed on the landscape, rather than within individual sites) to support a high level of biodiversity.

At the same time, long-term restoration programs should recognize the importance of the pattern of natural habitats on the landscape, and should:

- ◆ give priority to increasing the size and integrity of large blocks of habitat, by filling in gaps or irregular edges to reduce the edge to interior ratio, and by providing buffering from adjacent uses;
- ◆ establish new blocks of habitat near (within 1 km if possible) existing similar habitats;
- ◆ pay special attention to riparian corridors, and where possible enhance these corridors by including adjacent tableland; and
- ◆ examine carefully the implications of creating new corridor connections, to weigh both positive and potential negative effects.

**Targeted restoration** is oriented towards particular habitats or landscape elements at a finer scale; the restoration program for oak savanna in High Park is a good example.

Along the Greenway, targeted restoration should be oriented especially towards strengthening those ecological values identified previously for the waterfront. This could include:

- ◆ giving priority where possible to restoration of the specialized Great Lakes shoreline landforms and communities (beaches, dunes, shorecliffs, etc) identified in Brownell (1993);
- ◆ aiming to enhance species diversity through restoration projects that reduce human impacts and improve habitats for species identified as endangered, threatened, or rare along the waterfront, or by providing specialized habitats such as small ponds or wetlands sheltered from fish predation for amphibian breeding;

- ◆ paying special attention to the restoration of wildlife breeding, staging, and wintering habitats, in most cases by looking beyond single-species management to address the needs of the entire community of species using a habitat at various seasons;
- ◆ using restoration techniques to enhance ecological buffering functions, especially along water courses and habitat edges, through ecologically-oriented management of “adjacent areas” around significant habitats, of storm water management facilities, and of erosion and flood setback areas; and
- ◆ recognizing the critical need for large blocks and broad linkages of woodland and marsh habitat to act as source areas for species and genetic replenishment of nearby areas.

A comprehensive definition of restoration areas within the Greenway is not possible, since useful restoration activities can take place on widely scattered sites as opportunities arise. However, some areas where restoration is already underway, is proposed by others, or should be a priority include:

- ◆ areas with the potential to create or improve major blocks of waterfront habitat, such as Coote’s Paradise/Hamilton Harbour; Leslie Street Spit; Lynde Shores; and Oshawa Second Marsh/McLaughlin Bay Wildlife Reserve/Darlington Provincial Park;
- ◆ river mouth areas that can restore or improve connections between the lake and upstream valley corridors, in such areas as Port Credit, Humber Bay, the lower Don River valley, Wilmot Creek mouth, Cobourg Creek mouth, and lower Shelter Valley Creek; and
- ◆ sites impaired by past industrial activity, such as the lower Don, Port Hope Woods, or worked-out quarry sites.



The location of these ongoing and proposed restoration areas is shown in Appendix 1.

A more complete discussion of restoration potential can be found in *Ecological Restoration Opportunities for the Lake Ontario Greenway* (Hough Stansbury Woodland Naylor Dance, 1994). Recommended restoration techniques are provided in *Restoring Natural Habitats* (Hough Woodland Naylor Dance, 1995), a manual prepared for the Waterfront Regeneration Trust.

## 5.2.4 Role and Definition of Local Links

The role of smaller woodlots, pockets of marshland, hedgerows and utility corridors in the landscape cannot be ignored. Often it is these local scraps of habitat which are in closest proximity to people, and provide the easiest opportunities for contact with nature. In addition, their ecological roles can include:

- ◆ strengthening the potential for species movement and interchange among Natural Core Areas and corridors;
- ◆ providing opportunities for diurnal or seasonal species movement among habitats in close proximity;
- ◆ acting as short-term staging habitat or “stepping stones” for migratory birds and butterflies;
- ◆ facilitating local dispersal of non-migratory species into new or impoverished habitats; and
- ◆ providing habitat for a range of relatively tolerant “edge” species.

Because of the regional scale of the Greenway Strategy, individual local links are not mapped. However, in general terms, they include:

- ◆ patches of woodland, wetland, or old field, especially those over 1 ha in size or in close proximity to larger natural areas;
- ◆ wooded hedgerows and shelterbelts;
- ◆ rail corridors, and utility corridors not in active agricultural, recreational, or urban use;
- ◆ small ponds and pocket wetlands; and
- ◆ parks, cemeteries, ravines, and trail corridors in urban areas.



CHAPTER



6

# Implementation Strategies

## 6.1 Protection of Natural Core Areas and Corridors

As a fundamental strategy, existing Natural Core Areas and Corridors along the waterfront should be protected from further loss and degradation; where possible, the size and quality of these existing natural areas should be enhanced through natural processes of recovery or through management intervention.

At least four implementation strategies can be used for protection and enhancement:

### 6.1.1 Comprehensive Set of Policy Statements

The *Natural Heritage, Environmental Protection and Hazard Policies*, released by the Province in September 1994 and approved in February 1995, provide a framework for protection of natural areas along the waterfront, particularly under policy 1.2, which states that *Natural heritage features and areas will be protected* and policy 1.4, which requires *every reasonable opportunity be taken to: maintain the quality of air, land, water, and biota; maintain biodiversity compatible with indigenous natural systems; and protect natural links and corridors*.

Natural heritage features and areas are defined to include: “natural areas and natural or restored corridors such as significant ravines, river and stream corridors, significant portions of the habitat of endangered species, threatened species, and vulnerable species, significant natural corridors and woodlands south and east of the Canadian Shield, areas of natural and scientific interest, shorelines of lakes, rivers and streams, and significant wildlife habitat”.

In determining the above, significance is defined to mean “ecologically important to the natural environment in terms of amount, content, representation, or effect, thereby contributing to the quality and integrity of an identifiable ecological region or natural heritage system.

*Significance will be determined based on criteria and guidelines established by the province or on comparable municipal evaluations”.* Draft *Implementation Guidelines* provide more detail on how this significance can be assigned.

Since the Waterfront Regeneration Trust has responsibility for coordinating provincial policies and actions along the Lake Ontario Waterfront, the criteria established within this Natural Heritage Strategy should fall within the scope of these definitions, and policies 1.2 and 1.4 should apply to Natural Core Areas and Corridors. The suitability of this approach has been confirmed by discussions with the OMNR team responsible for drafting guidelines for implementation of provincial natural heritage policies. However, it is also useful to cross-check how the draft guidelines as presented would apply along the waterfront. A summary of which policies would apply to each of the Waterfront Natural Areas is presented in Appendix 1; the effect of the policies and implementation guidelines is discussed briefly below.

## VALLEYS AND STREAM CORRIDORS

Under Policy 1.2, subsection a) prohibits development in significant ravine, valley, river, and stream corridors. The draft *Implementation Guidelines* suggest that these features should be evaluated in a watershed context, and that they include top-of-bank plus 10 metres for distinct valley landforms, or high water level plus 10 metres for smaller stream courses. Significant corridors are those that are naturally vegetated or potentially revegetated, with the potential determined by “reasonable opportunities for restoration or remediation of the vegetation, or naturalization of the landform”.

Using this approach, the ravines and valleys identified in chapter 3 of this report should be considered significant corridors at the waterfront level, since they provide more or less continuous natural linkages to the Niagara Escarpment, Oak Ridges Moraine, and Lake Iroquois shoreline. Within each of these corridors, municipalities should define those sections which have already been



so modified that they no longer offer reasonable opportunities for restoration or remediation. In many lower sections of valley corridors, considerable emphasis should be placed on restoring natural habitat links.

## HABITAT FOR ENDANGERED/THREATENED/VULNERABLE SPECIES

There is only one record of a provincially endangered species within the Greenway – a population of Hoary Mountain Mint at Willow Point in Burlington. Since threatened or vulnerable species are not yet officially listed, this criterion is difficult to apply. However, the draft *Implementation Guidelines* do include as threatened those species that are experiencing a decline *throughout all or a significant portion of their Ontario range*. Vulnerable species include those *particularly at risk because of low or declining numbers, occurrence at the fringe of their range or in restricted areas*. Therefore, those species identified by Vivian Brownell (1993) as rare along the waterfront should be considered under this policy. Areas meeting this definition are identified under criterion g in defining Significant Natural Areas (see Table 2 and Appendix 1).

## SIGNIFICANT WOODLANDS

The draft *Implementation Guidelines* assess the significance of woodlands based primarily on their size in the context of the surrounding planning area, with supporting criteria for other significant natural features present, uncommon quality, or other ecological function such as linkage. In applying this criterion along the Lake Ontario waterfront (see Appendix 1), only those areas known to include interior forest, woodlands of exceptional quality, or relatively large woodlands within urban areas were identified.

Full application of this provincial policy by municipalities at the Official Plan stage will likely identify further areas that warrant protection in the local context.

## AREAS OF NATURAL AND SCIENTIFIC INTEREST

Areas of Natural and Scientific Interest (ANSIs) have been identified by the Ministry of Natural Resources, based largely on their ability to represent the range of life and earth science features within Site Districts. All ANSIs within the Greenway have already been included as Waterfront Natural Areas.

## SHORELINES OF LAKES, RIVERS AND STREAMS

The draft *Implementation Guidelines* suggest evaluation of shorelines based on:

- ◆ provision of ecological functions
- ◆ steep slopes, soil constraints, or other environmental constraints
- ◆ other significant natural heritage features
- ◆ where negative water quality impacts are expected

Many shoreline areas will already be covered under other policies, especially policies related to fish habitat or shoreline setbacks regulated to protect public safety. Essentially any new development within 50 metres of a shoreline will require an environmental impact study. Development of integrated shoreline management plans to provide guidance on acceptable activities in shoreline areas would be helpful in implementing this policy.

## SIGNIFICANT WILDLIFE HABITAT

Wildlife habitat in the draft *Implementation Guidelines* is evaluated as general wildlife habitat or specific significant habitats. In the general category, habitat is considered on the basis of:

- ◆ size and overall extent
- ◆ diversity

◆ linkages within and between habitats; and

◆ ecological functions of habitats

Specific habitats include:

◆ sites where a species is concentrated or particularly susceptible to impacts for a specific period of its life cycle (heronries, deer yards, denning sites, etc);

◆ sites that are important to migrating species, such as staging areas; and

◆ important habitats of species of conservation concern (such as raptors, forest-interior, prairie species).

These factors are included within Significant Natural Areas criteria **f** (species diversity), **g** (species of concern), **h** (habitat for seasonal concentrations of wildlife), **i** (area size, shape, and buffering capacity), and **j** (linkage and clustering).

## SIGNIFICANT NATURAL CORRIDORS

In landscapes with less than 20-30% forest cover (i.e. all waterfront landscape units), significant natural corridors may include both naturally vegetated areas and potential corridors between or along other significant natural heritage features and areas.

This is intended to encourage restoration within those potential corridors, and to strengthen the case for defining continuous valley or upland corridors even where some sections have been impacted in the past.

In addition to the significant valley corridors already identified, this guideline could be applied to the east-west habitat corridors identified in chapter 3 of this report.

## WETLANDS

Policy 2.1 requires all planning jurisdictions including municipalities, planning boards and resource management bodies to protect provincially significant wetlands. Within the Lake Ontario Greenway, this includes:

Coote's Paradise  
Hendrie Valley  
Ratray Marsh  
Lower Humber River Marshes  
Stephenson's Swamp  
Highland Creek Swamp  
Lower Rouge Marsh  
Frenchman's Bay  
Duffins Creek Marsh  
Shoal Point Marsh (Carruthers Creek Marsh)  
Cranberry Marsh  
Lynde Creek Marsh  
Corbett Creek Marsh  
Pumphouse Marsh  
Second Marsh  
McLaughlin Bay  
West Side Creek Marsh  
Newcastle Marsh (Lower Wilmot Creek)  
Willowbeach Marsh (Port Britain Marsh)  
Carr Marsh  
Wicklow Beach Wetland  
Colborne Creek Wetland  
Spencer Point Creek Wetland  
Hunt and Beach Road Wetland  
(Popham Bay Wetland)  
Presqu'ile Bay Wetland  
Dead Creek Wetland



Young Cove Wetland  
Twelve O'Clock Marsh  
Wellers Bay Wetland.

Policy 2.2 encourages other planning jurisdictions to protect wetlands that are not provincially significant. The following wetland areas have been evaluated as class 4-7; those with (?) are being re-evaluated currently.

Willow Point (?)  
Lower Bronte Creek  
Sixteen Mile Creek Mouth  
Fudger's Marsh  
Lower Credit River Marshes  
Ajax Warbler Swamp  
Raby Head Wetland  
Bowmanville Creek Wetland  
Wesleyville Marsh  
Peter Rock Marsh #2  
Cobourg Shopping Centre Wetland  
Cobourg Creek Wetland  
Brookside Wetland  
Grafton Wetland  
Lower Shelter Valley Creek Wetland  
Wicklów Gravel Pit  
McGlennón Point Wetland  
Lakeport Wetland  
Salem Corners Swamp (Salem Woods)  
Boat Harbour

Most of these areas have been included as Waterfront Natural Areas, consistent with the *Strategic Plan for Wetlands of the Great Lakes Basin* (Agriculture Canada et al, 1993), which calls for no loss of Great Lakes coastal wetlands.

## 6.1.2 Role of Local Official Plans

Much of the provincial policy described above will be implemented through local and regional Official Plans. However, municipalities can go beyond these provincial requirements to address the protection and regeneration of natural features in a variety of ways. Local planning instruments, including Official Plans, zoning by-laws, secondary plans, subdivision agreements, and other forms of development control, may for example:

- ◆ identify and protect woodlands, valley corridors, and natural areas of significance at the local level;
- ◆ set a target of no net loss of natural areas within the waterfront area and valleys of each municipality, with requirements for replacement or mitigation where any natural area is affected by development;
- ◆ incorporate waterfront and other natural heritage features into comprehensive natural heritage systems for each municipality;
- ◆ identify ecological restoration areas to be included in development plans, park management plans, or public works construction projects; and
- ◆ participate in the development of integrated shoreline management plans and watershed plans, including provisions for natural heritage protection and enhancement.

## 6.1.3 Stewardship and Incentive Programs

The role of private landowners is very important in determining the future of natural areas along the waterfront. Particularly in the eastern half of the Greenway, most of the significant natural habitats are privately owned. Many of these owners are sympathetic to the



protection of natural values. Experience with stewardship programs across southern Ontario has shown that a personal approach through a non-regulatory landowner contact program can increase this commitment.

In the more urban parts of the Greenway, some natural areas are owned by corporations, who in some cases see an ethical and public relations value in voluntarily protecting their green space (e.g. General Motors in Oshawa).

In a few places along the waterfront, most notably at Thicksons Woods in Whitby, local citizens have banded together to purchase a threatened natural area. The strong sense of commitment provided by this action results in careful stewardship of the natural area.

Finally, stewardship can also encompass the management of public lands such as Rattray Marsh or Tommy Thompson Park, to increase their contribution to wildlife habitat and biodiversity along the waterfront. An integrated approach to management should be encouraged wherever public lands are located, including consideration of habitat opportunities.

In order to encourage stewardship of natural areas along the waterfront, the Waterfront Regeneration Trust should:

- ◆ assist local agencies to sponsor landowner contact programs for private landowners, with priority given to the eastern end of the Greenway; and
- ◆ develop a recognition program to recognize and support corporations, individuals, and groups who demonstrate outstanding stewardship actions.

## 6.1.4 Public Acquisition

There remains a role for public acquisition of natural areas along the waterfront, particularly in settings where increased public access to the shoreline can be provided without damage. At least four mechanisms for public acquisition should be examined:

- ◆ dedication of waterfront lands, floodplains, valleylands and natural areas to municipalities, conservation authorities, or other agencies during the development process;
- ◆ acquisition of natural areas on erosion or flood prone lands by conservation authorities as a cost-effective alternative to shore protection;
- ◆ participation in established acquisition programs such as the Eastern Habitat Joint Venture under the North American Waterfowl Management Agreement or the Nature Conservancy of Canada's Great Lakes program; and
- ◆ development of a special funding source for cost-sharing of acquisition projects by the provincial government, municipalities, conservation authorities, the private sector, foundations, or non-profit groups along the waterfront.

## 6.2 Restoration Opportunities

Among the many opportunities for future restoration projects along the Greenway are:

- ◆ naturalization of parklands, utility corridors, and other public lands;
- ◆ cooperative projects with developers and municipalities within hazard land setbacks and in the 50 metre "adjacent lands" identified in provincial planning policies around significant natural areas;

- ◆ restoration to a natural state of worked-out or abandoned pits and quarries;
- ◆ encouragement of restoration activities by private landowners and community groups through stewardship and public education programs; and
- ◆ coordinated area-specific projects such as Project Paradise in the Hamilton area or Bring Back the Don in Toronto.

The development of ecological restoration plans under the leadership of conservation authorities for key valleys along the Greenway could do much to focus restoration efforts, and to make the most of future opportunities. The process used to develop *Forty Steps to a New Don* (MTRCA, 1993) provides a good model for how this could be achieved. As a target, it would be reasonable to have ten of these valley restoration plans in place by the year 2000, mostly in the more urban sections of the Greenway.

## 6.3 Monitoring Progress

Monitoring of barometers of progress along the waterfront is essential, to provide a credible basis for further actions, to celebrate accomplishments, and to help ensure informed public opinion. These barometers should relate to the long-term vision for the Greenway, document current conditions in comparison to that vision, and measure the effectiveness of various measures in closing the gap. Among the barometers that have been identified to measure ecological objectives are:

- ◆ the area of various habitat types along the waterfront, including forest and marsh interior;
- ◆ the number and area of natural habitats protected through provincial or local policy designations;

- ◆ the number and area of natural habitats protected through public ownership or stewardship agreements;
- ◆ the number of endangered, threatened, or rare species present;
- ◆ the number of additions or losses of specialized community types; and
- ◆ the distribution and community composition of several wildlife indicator species, including reptile and amphibian species, fish-eating birds, and forest and marshland interior specialists.

Baseline monitoring of herpetofauna along the waterfront has already begun (Schueler, 1995). Baseline information on many of the other barometers is available from various sources.

To carry out this monitoring function most efficiently, future efforts should be closely coordinated with information-gathering programs of other agencies, and with volunteer-based programs such as species atlases.

## 6.4 Research and Information

Despite the level of effort directed at the Lake Ontario waterfront over the past five years, there is much that is not yet completely understood. Further, some ecological realities are poorly known among the public, landowners, and agencies along the waterfront. Among the more pressing research topics to address these needs are:

- ◆ Additional field work is necessary to document and properly evaluate natural areas within the Greenway. Brownell notes that 60% of the 160 natural areas she reviewed have extremely poor, poor, little, or out-of-date information. Brownell also identified the need for work on additional areas in the Grindstone Creek vicinity, sections of the Halton Plain, the Humber Valley plains, and north of Highway 2 from Oshawa to Trenton.

- ◆ Basic information is needed on the extent, quality, and composition of forest cover along the Greenway, especially in urban and urban-fringe areas where changes are rapid.
- ◆ The nature and extent of species movement associated with habitat corridors is an area which demands extensive research, since so much of the current theory is unproven. Within the Greenway area, this could include both valley corridors and the semi-continuous upland corridors associated with the Lake Iroquois shoreline. Research is also needed on the role of habitat connections for such habitat specialists as amphibians, and on the causes underlying the current depopulation of apparently suitable habitats in much of the central Greenway.
- ◆ Many questions remain to be answered about the practicality and effectiveness of various restoration techniques, both aquatic and terrestrial.
  - Much improved mapping of the supply and distribution of habitats throughout the Bioregion is needed, so that changes over time can be measured with some degree of confidence.
  - Considerable basic research effort is necessary in the whole field of ecosystem management, particularly the relationships between landscape structure, composition, and function; the development of workable approaches to ecological sustainability; and the setting of landscape targets.

The Waterfront Regeneration Trust and its partners could play a useful role by identifying research objectives and working with universities and other agencies to encourage participation in priority research work.

## 6.5 Linking the Greenway to other Bioregional Initiatives

The ecological functions of the Greenway do not occur in isolation from the adjacent Bioregion, nor from the adjacent waters of Lake Ontario. A natural heritage strategy for the Greenway, then, must recognize and integrate with complementary programs dealing with the Oak Ridges Moraine, other parts of the Bioregion, and the Lake. To this end, the Waterfront Regeneration Trust and its partners should:

- ◆ cooperate with and encourage the implementation of the emerging strategy for the Oak Ridges Moraine, the revised Niagara Escarpment Plan, a potential greenlands strategy for the Greater Toronto Bioregion, and various watershed plans and strategies;
- ◆ encourage integrated planning to protect and enhance the Lake Iroquois shoreline corridor, especially from Scarborough eastwards, as an important landscape feature that has received little recognition;
- ◆ encourage and support the gathering of ecological information and the development of natural heritage systems by conservation authorities and/or municipalities;
- ◆ monitor, cooperate with, and support international, provincial and regional programs to restore the water quality of Lake Ontario and its nearshore waters and to maintain and restore wetland habitats;
- ◆ encourage the Province to develop a broader natural heritage strategy for the Greater Toronto Bioregion, to address the long-term needs of a sustainable landscape in an area of multiple jurisdictions;
- ◆ work with other agencies to develop and deliver a broad public information and education program to highlight the ecological links within the Bioregion, and to raise awareness of programs to address natural heritage conservation.



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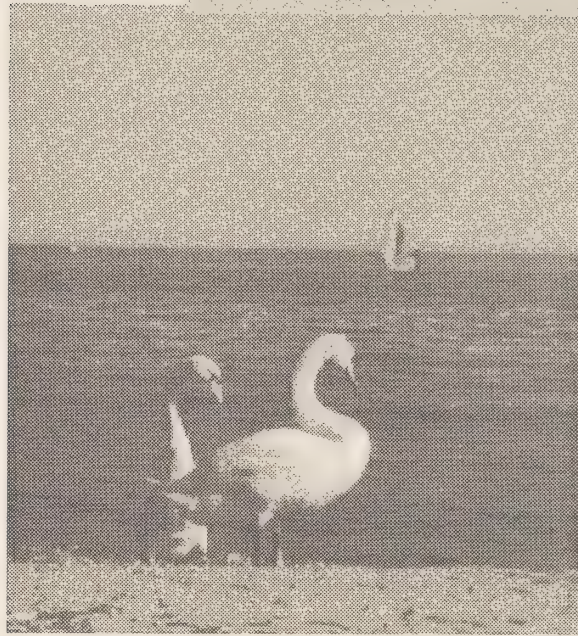
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# Appendix



# WATERFRONT NATURAL AREAS

Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Dundas/Hamilton															
Coote's Paradise	a, c, h, g, d, f, i, j	■			Provincial Life Science		■	■	Provincial	■			Underway	Public	Open Space/Utility
Burlington															
Willow Point (1)*****	a, c, g	■				■			Local	■			Proposed	Private	Residential
GRINDSTONE CREEK VALLEY CORRIDOR															
Hendrie Valley (2)	b, g, h, j	■	■	■	Regional Life Science		■	■	Provincial	■		■	Completed	Public	Open Space/ESA
LaSalle Park (5)	e, h					■	■						Underway	Public	Open Space
Falcon Creek (6)		■												Private	Open Space
Hydro Islands (7)	h						■						Underway	Public	None
Burlington Beach (8)	a, d, g, h	■				■	■			■			Proposed	Public	Open Space
Shoreacres Creek (9)	g, h	■					■			■				Public	Residential/ Open Space
Appleby Creek (10)	h													Public/Private	Residential

## Notes:

\* Selection criteria for Significant Natural Areas (SNA) from Table 2

\*\* ETV: Endangered Threatened and/or Vulnerable

\*\*\* ANSI: Area of Natural and Scientific Interest

\*\*\*\* Local OPs have been used to obtain this information. Landuse categories have been simplified to provide some consistency among the various documents used.

\*\*\*\*\* Numbers in parenthesis refer to natural areas in Brownell (1993). Natural area numbers 3, 4, 13, 19, 22, 24, 35, 36, 42, 47, 63, 64, 65, 69, 70, 81, 83, 104, 107, 131, 147 in Brownell 1993, are outside the Lake Ontario Greenway and therefore not included in the above chart.



Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Oakville															
Bronte – Burloak – Sheldon Creek (11)	a, c, g, h		■			■	■			■				Public/Private	Open Space/ Residential
BRONTE CREEK VALLEY CORRIDOR															
Lower Bronte Creek (12)	e, f, g, h, j	■	■	■			■	■	Local	■		■	Proposed	Public/Private	Open Space/ESA
Coronation Park/ Sedgewich Park (14)	g, h									Part				Public	Open Space/ Residential
FOURTEEN MILE CREEK VALLEY CORRIDOR															
Fourteen Mile Creek/ Baillie Estates (15)	g, h	■					■	■		■		■		Private	Open Space/ Residential
Appleby College (16)	h					■	■							Private	Open Space/ Residential
Hindmarsh Property (17)	h					■	■							Private	Open Space/ Residential
SIXTEEN MILE CREEK CORRIDOR															
Sixteen Mile Creek South (18)	h, j	■		■			■	■	Local			■		Public/Private	Open Space
Morrison Creek (20)														Public	Open Space/ Residential
Gardener Estate (21)														Private	Open Space/ Residential
Lower Joshua's Creek Valley (23)	g, h	■	■	■		■	■	■		Part			Proposed	Public/Private	Open Space/ESA



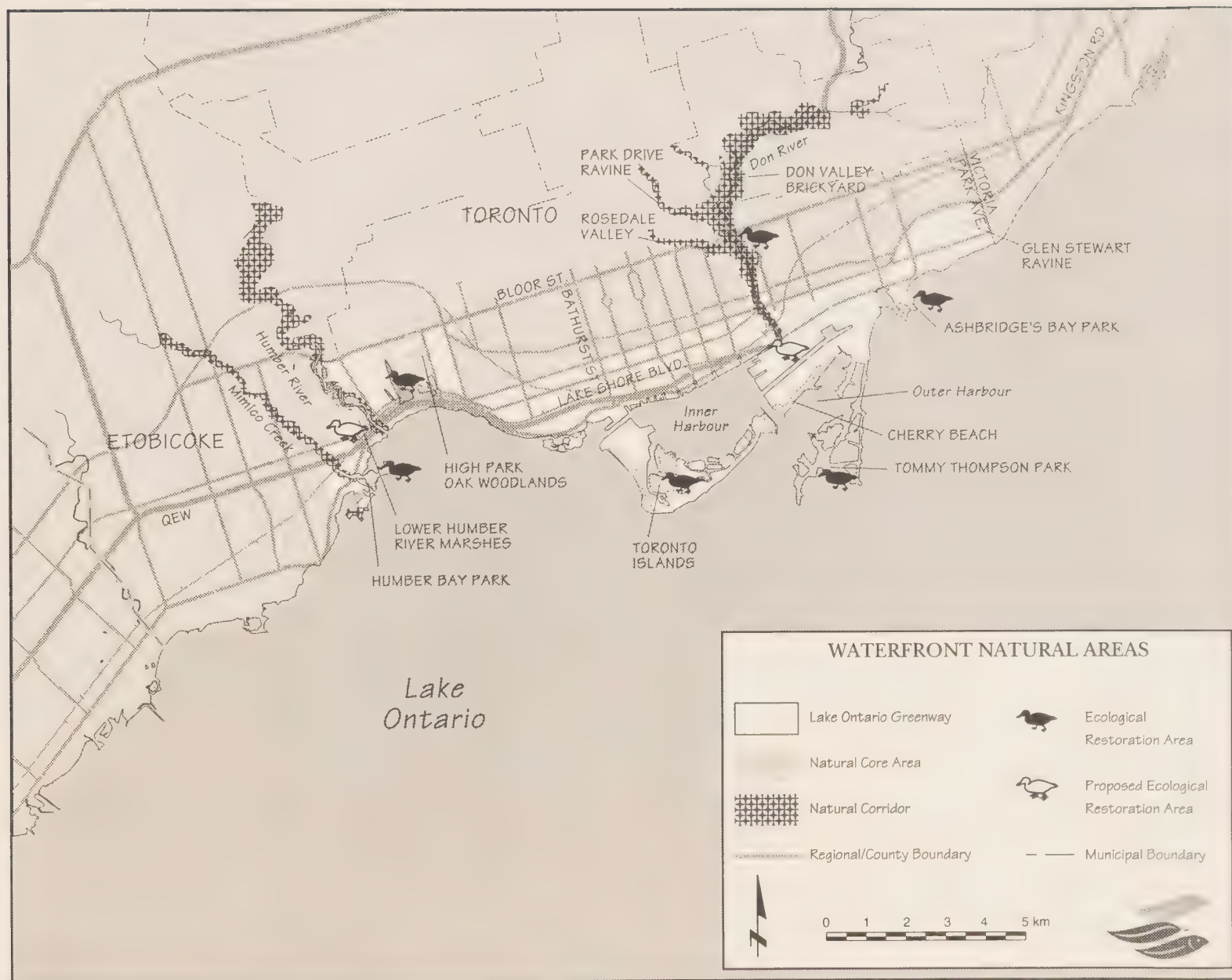


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Mississauga															
Old Gairdner Estate (25)														Private	Industrial
Avon Head Creek (26)														Public	Open Space
Meadowood Park (27)													Underway	Private	Open Space
Rattray Marsh (28)	c, d, e, f, g, h, j				Provincial Life Science				Provincial					Public	Open Space
Turtle Creek (29)														Public	Open Space/ Residential
Fudger's Marsh (30)	g								Local					Public/Private	Open Space/ Residential
Lorne Park Prairie/ Lornewood Creek (31)	d, g				Regional Life Science					Part			Proposed	Private	Open Space/ Residential/ESA
Tecumseh Creek (32)														Public	Open Space
CREDIT RIVER VALLEY CORRIDOR															
Lower Credit River (33)	d, e, h, j				Regional Life Science				Local				Proposed	Public/Private	Open Space/ESA
Stavebank Oak Woods (34)	c, j				Regional Life Science									Public/Private	Open Space/ Residential/ESA
Mary Fix/Loyalist Creek (37)	a													Private	Residential
Lakefront Promenade (38)	j												Underway	Public	Open Space
Cawthra Woods and Creek (39)	a, c				Regional Life Science									Public	Open Space/ESA
Applewood Creek (40)	a													Public	Industrial/Open Space/ Residential
Etobicoke															
ETOBICOKE CREEK VALLEY CORRIDOR															
Lower Etobicoke Creek/ Marie Curtis Park (41)	a, h, j												Proposed	Public	Open Space
Colonel Sam Smith (43)	h, j												Underway	Public	Open Space



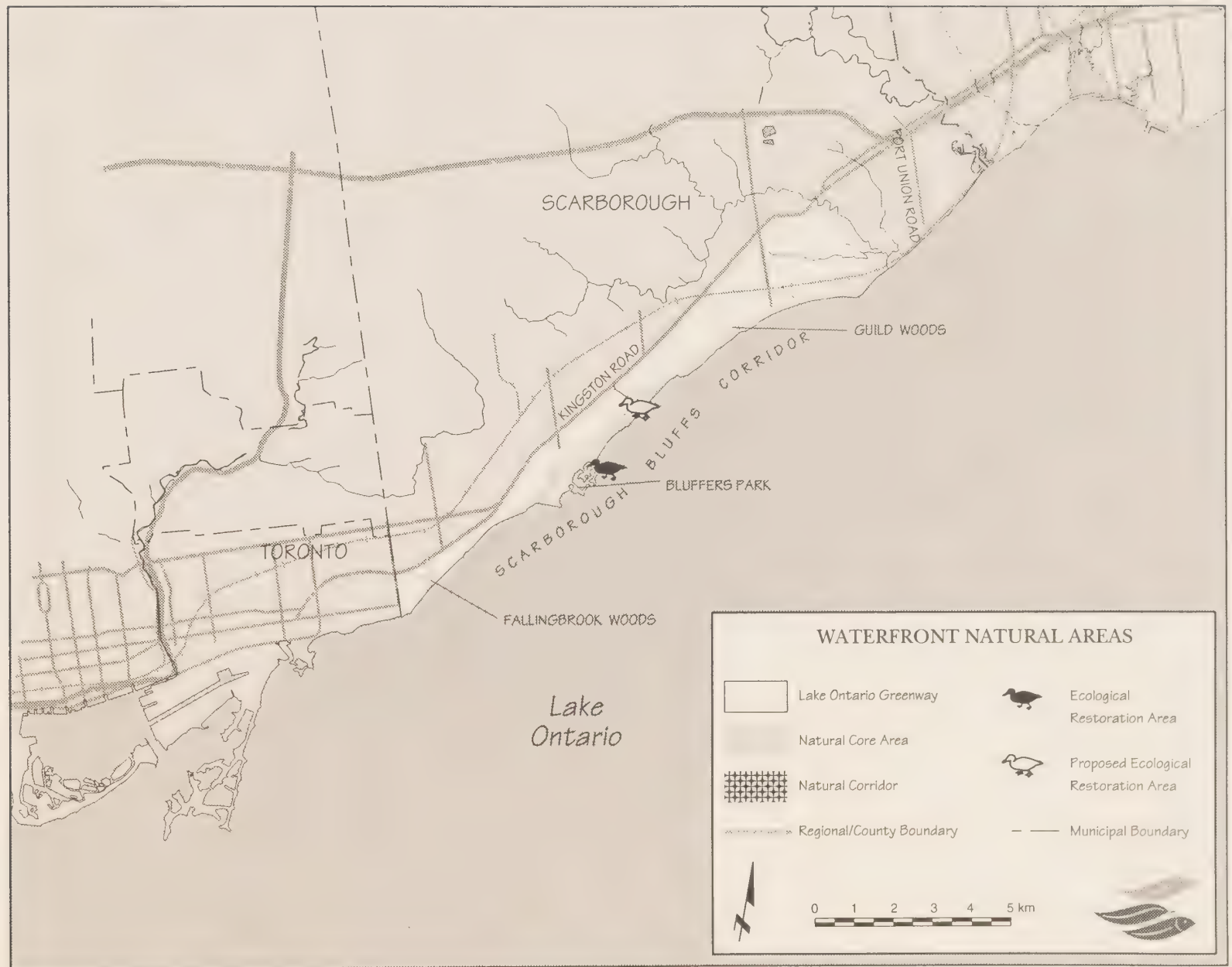


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Etobicoke continued															
MIMICO CREEK VALLEY CORRIDOR															
Humber Bay Park – Mimico Creek (44)	e, h, j	■				■	■	■		Part		■	Underway	Public	Open Space
HUMBER RIVER VALLEY CORRIDOR															
Lower Humber River Marshes (45)	c, e, g, h, j	■	■			■	■	■	Provincial	■		■	Proposed	Public/Private	Open Space
Humber Valley/Home Smith & Magwood Park (46)	e, j	■		■				■				■		Public	Open Space
Toronto															
South Kingsway West (48)														Private	Open Space/ Residential
South Kingsway East (49)														Private/Public	Residential
Ellis Park (50)	j													Private	Open Space/ Residential
Rennie Park (51)														Public	Open Space
Ellis Avenue (52)														Private	Open Space
High Park Oak Woodlands (53)	d, f, g, h		■	■	Regional Earth Science		■			■			Underway	Public	Open Space/ESA
Sunnyside Beach (54)														Public	Open Space
Toronto Islands (55)	a, d, f, g, h, j		■		Regional Earth Science	■	■			■			Underway	Public	Open Space/ESA
DON RIVER VALLEY CORRIDOR															
Rosedale Valley (56)		■										■		Private	Open Space/ Residential
Park Drive Ravine (57)	h	■					■					■		Public/Private	Open Space/ Residential
Don Valley Brickyard (58)	a	■			Provincial Earth Science					■		■		Public	Open Space/ESA
Don River Valley (59) (from Gerrard St. to Don Mills Rd.)	h, j	■					■	■				■	Underway	Public	Open Space
Cherry Beach (60)	d, f, g, h		■			■	■			■				Public	Open Space/ESA

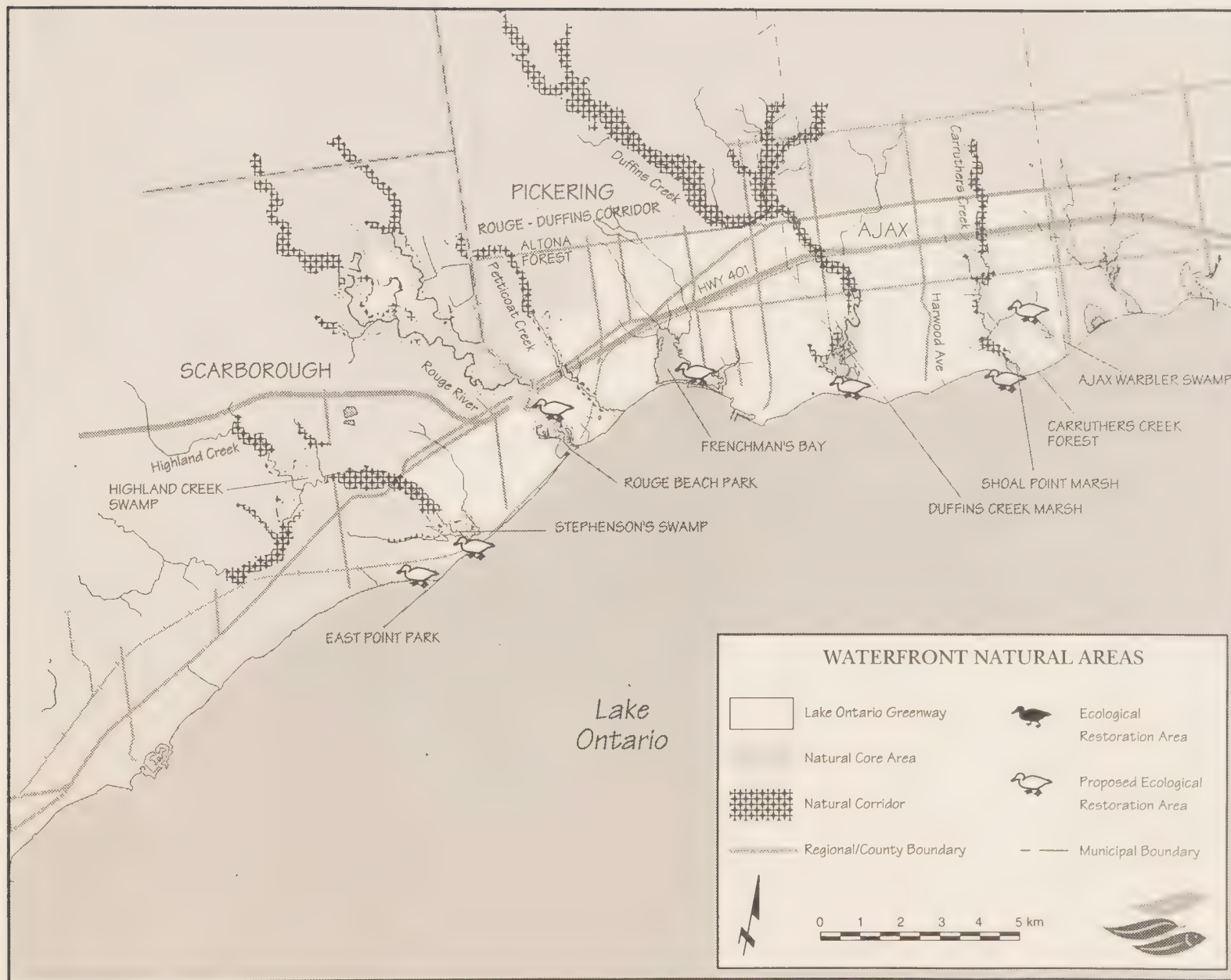


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****	
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration			
Toronto continued																
Tommy Thompson Park (61)	d, e, f, g, h, j		■				■			■			Underway	Public	Open Space/ESA	
Ashbridge's Bay (62)							■						Underway	Public	Open Space	
Glen Stewart Ravine (66)	a, e, g		■	■						■				Public/Private	Open Space/ESA	
Eastern Beaches (67)							■	■						Public	Open Space	
Scarborough																
Neville Park Ravine (68)														Public/Private	Residential	
Fallingbrook Woods (71)	e, h			■			■			■				Private	Open Space/ Residential/ESA	
SCARBOROUGH BLUFFS CORRIDOR																
Scarborough Bluffs & Bluffers Park (72)	a, e, g, h, j		■		Provincial Life Science/ Earth Science		■		■	■			Underway/ Proposed	Public/Private	Open Space/ Residential/ESA	
Guild Woods (73)	d		■	■			■			■	■			Public	Open Space/ Residential/ESA	
East Point (74)	a, d, e, f, g, h, j		■		Regional Life Science		■	■		■			Proposed	Public/Private	Open Space/ Industrial/ESA	
HIGHLAND CREEK VALLEY CORRIDOR																
Highland Creek Marsh/ Stephenson's Swamp (75)	d, e, g, h	■	■	■				■		Provincial		■	Proposed	Public/Private	Open Space/ Industrial/ESA	
Highland Creek Swamp (76)	d, g, i, j	■	■	■	Regional Life Science			■		Provincial	■		■	Public	Open Space/ESA	
ROUGE-DUFFINS CORRIDOR																
ROUGE RIVER VALLEY CORRIDOR																
Lower Rouge Valley (77)	c, d, e, f, g, h, i, j	■	■	■	Provincial Life Science/ Regional Earth Science		■	■	■	Provincial	■		■	Proposed	Public/Private	Open Space/ESA
Rouge Valley – Midsection (78)	c, d, e, f, g, h, i, j	■	■	■	Provincial Life and Earth Science			■	■		■		■	Public/Private	Open Space/ESA	
Rouge Valley – Upper Section (79)	c, d, e, f, g, h, i, j	■	■	■	Provincial Life and Earth Science			■	■		■		■	Public/Private	Open Space/ESA	



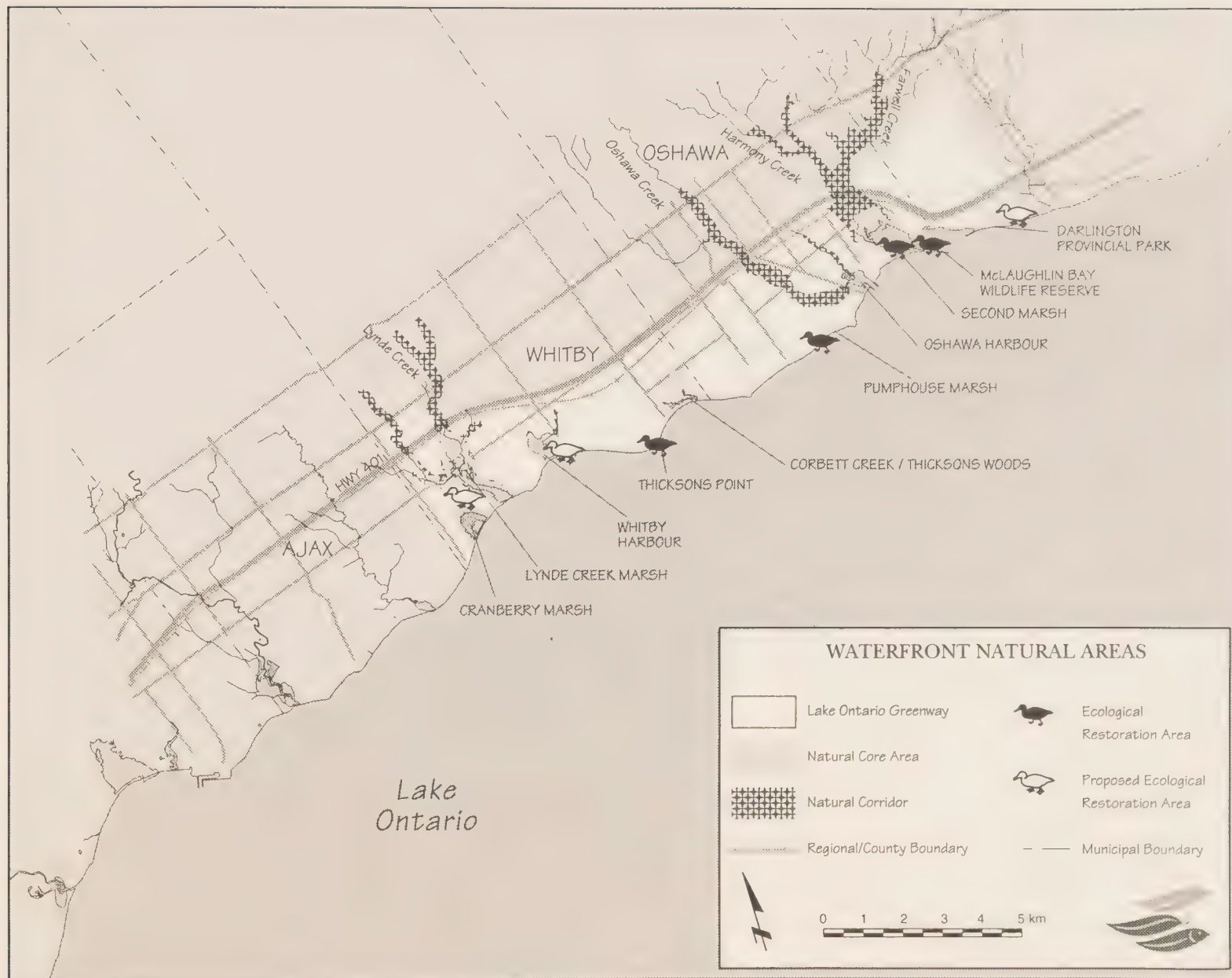


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Pickering															
PETTICOAT CREEK VALLEY CORRIDOR															
Petticoat Creek (80) (mouth to Sheppard Ave.)	c, e, f, j	■		■				■		■		■		Public/Private	Open Space/ESA
Frenchman's Bay (82)	f, g, h, j		■				■		Provincial	■			Proposed	Public/Private	Open Space/ Residential/ESA
Ajax															
DUFFINS CREEK VALLEY CORRIDOR															
Duffins Creek Marsh (84)	e, f, g, h, j	■	■		Regional Life Science	■	■	■	Provincial	■		■	Proposed	Public	Open Space/ESA
CARRUTHERS CREEK VALLEY CORRIDOR															
Caruthers Creek Forest (85)	f, g, h, j	■		■			■			■		■	Proposed	Public/Private	Open Space/ Residential/ESA
Ajax Warbler Swamp (86)	f, g, h, j			■			■		Local	■			Proposed	Private	Open Space/ Residential
Shoal Point Marsh (87)	d, e, f, g, h, j	■	■		Regional Life Science	■	■	■	Provincial	■		■		Private	Open Space/ESA
Ajax Screech Owl Woods (88)							■							Private	Open Space/ Industrial/Residential
Whitby															
Cranberry Marsh (89)	c, d, e, f, g, h		■		Provincial Life Science	■	■		Provincial	■				Public	Open Space/ESA
LYNDE CREEK VALLEY CORRIDOR															
Lynde Shores/Lynde Creek Marsh (90)	c, e, f, g, h, i, j	■	■		Regional Life Science	■	■	■	Provincial	■		■	Proposed	Public	Open Space/ESA
Whitby Harbour/ Pringle Creek (91)														Public/Private	Open Space/ESA
Corbett Creek/ Thickson's Woods (92)	c, d, e, f, g, h, j		■	■		■	■		Provincial	■				Public/Private	Open Space/ESA



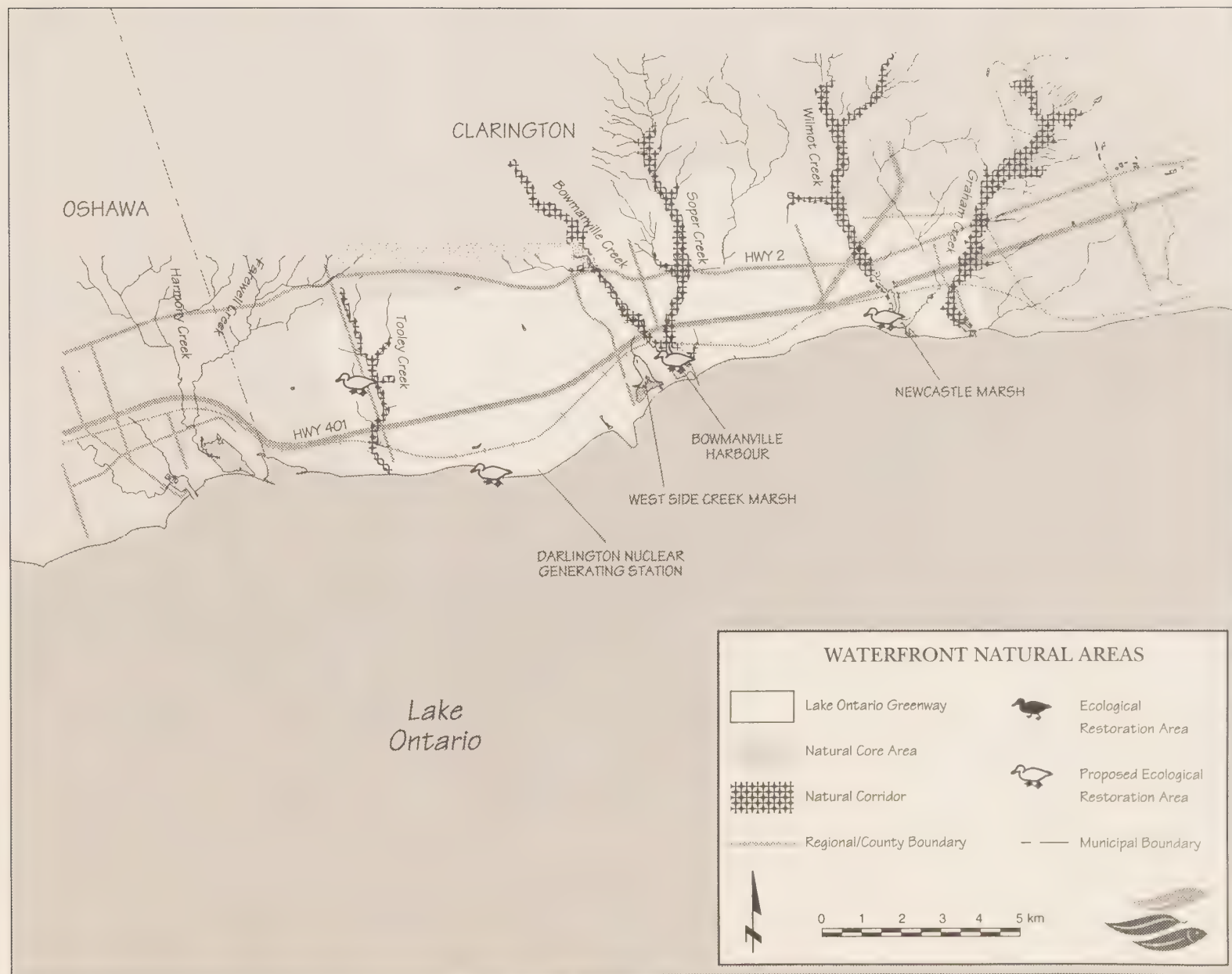


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Oshawa															
OSHAWA CREEK VALLEY CORRIDOR															
Pumphouse Marsh (93)	d, f, h		■				■		Provincial	■			Underway	Public	Open Space/ESA
Oshawa Creek/ Goodman Creek/Oshawa Harbour (94)	a, e, h, j	■		■	Regional Earth Science		■	■				■		Public	Open Space/ESA
FAREWELL CREEK VALLEY CORRIDOR															
Second Marsh (95)	c, d, e, f, g, h, i, j	■	■	■	Provincial Life Science	■	■	■	Provincial	■		■	Underway	Public	Open Space/ Industrial/ESA
McLaughlin Bay (96)	a, e, h, j		■			■	■			■			Underway	Public/Private	Open Space
Clarington															
Darlington Provincial Park (97)	a, f, g, h, i		■		Regional Earth Science	■	■		Provincial	■			Proposed	Public	Open Space/ESA

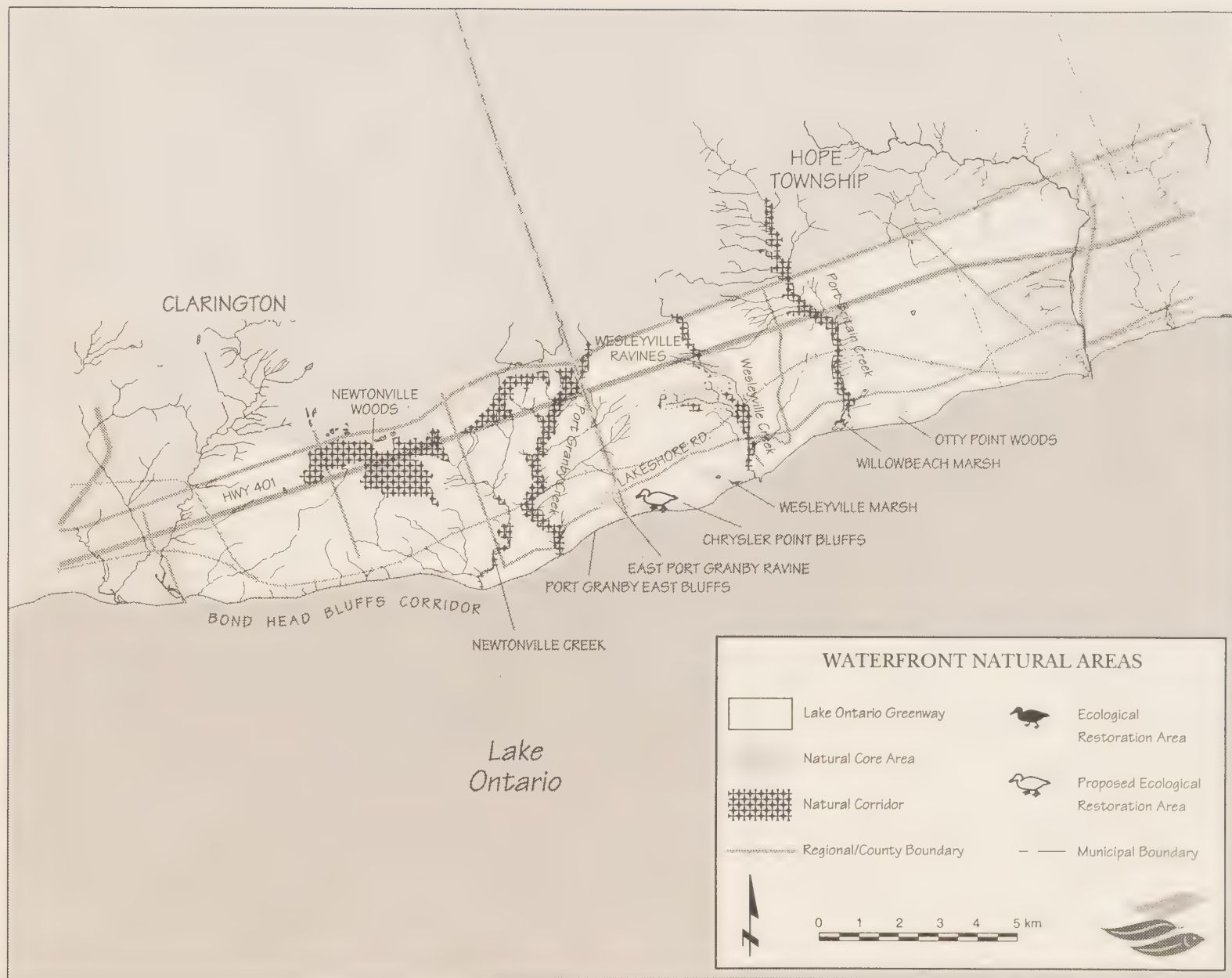


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Official Plan Designation****	
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		Ownership
Clarington continued															
TOOLEY CREEK VALLEY CORRIDOR															
Tooley Creek (98) (south of Bloor St.)	h, j	■										■	Proposed	Private	Open Space/ Agricultural/ESA
St. Marys (Raby Head) Marsh (99)	a, e, f, g, h, j				Provincial Earth Science	■			Local					Private	Industrial/ Open Space/ESA
West Side Creek Marsh (100)	c, e, g, h		■			■	■		Provincial	■			Proposed	Private	Open Space/ Extraction/ESA
BOWMANVILLE CREEK VALLEY CORRIDOR															
Bowmanville Creek/Harbour/ Port Darlington (101)	e, f, g, h, j	■				■	■	■	Local	■		■		Public/Private	Open Space/ESA
SOPER CREEK VALLEY CORRIDOR															
WILMOT CREEK VALLEY CORRIDOR															
Newcastle Marsh (102) (Wilmot Creek/Foster Creek)	e, g, h, j	■			Regional Life Science	■	■	■	Provincial	■		■		Public/Private	Open Space/ESA
GRAHAM CREEK VALLEY CORRIDOR															
Graham Creek/Mulligan Creek/ Port of Newcastle (103)	h, j	■		■				■						Private	Residential/ Open Space



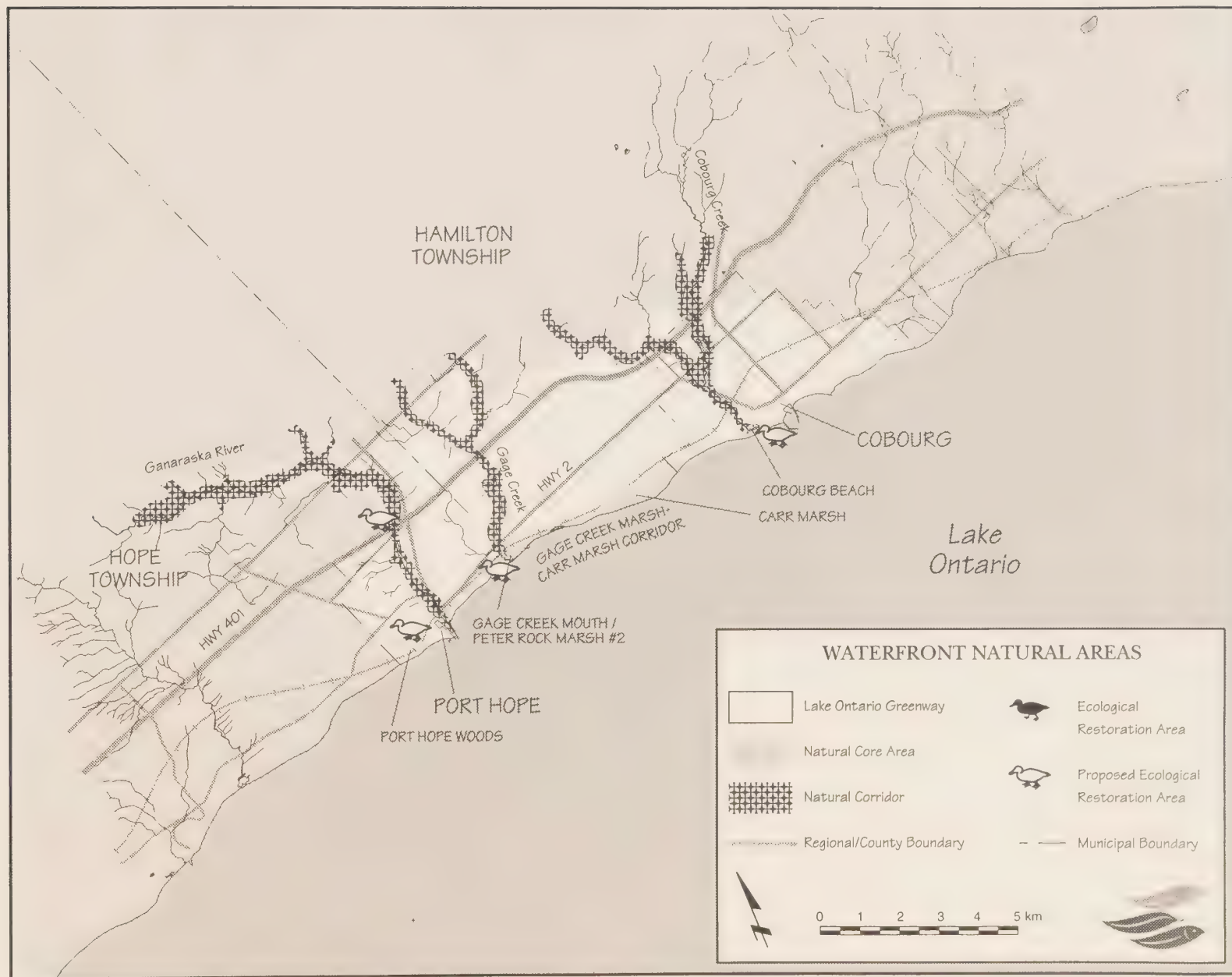


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Clarington (continued)															
BOND HEAD BLUFFS CORRIDOR															
Bond Head Bluffs (105)	a, d, e, f, g, h, j		■		Provincial Life Science/ Regional Earth Science	■	■	■		■	■			Private	Open Space/ESA
Newtonville Creek (106)	h			■	Regional Life Science			■			■			Private	Open Space/ Agricultural/ESA
Newtonville Woods	j			■				■			■			Private	Open Space/ Agricultural
PORT GRANBY CREEK VALLEY CORRIDOR															
Port Granby Creek(108) (south of Hwy 2)	h	■						■				■		Private	Open Space/ESA
Hope Township															
Port Granby East Bluffs (190)	a, c, d, e, f, g, h, j		■			■	■			■				Private	Open Space
East Port Granby Ravine (110)	a, c, d, e, f, g, h, j		■	■		■				■				Private	Open Space/ Agricultural/ESA
Crysler Point Bluffs (111)	c, d, h, j		■		Regional Life Science	■				■				Public	Open Space/ Industrial/ESA
WESLEYVILLE CREEK VALLEY CORRIDOR															
Wesleyville Marsh (112)	c, g, h	■	■		Regional Life Science	■	■		Local	■		■		Public	Open Space/ESA
Wesleyville Creek/ Ravines (113)	a, g	■	■	■	Provincial Life Science			■		■		■		Public/Private	Open Space/ Industrial/ESA
PORT BRITAIN CREEK VALLEY CORRIDOR															
Willowbeach Marsh (114) (Port Britain Marsh )	c, h, j	■			Regional Life Science		■		Provincial	■		■		Private	Open Space/ESA
Otty Point Woods (115)	c, d, e, j			■						■				Private	Agricultural



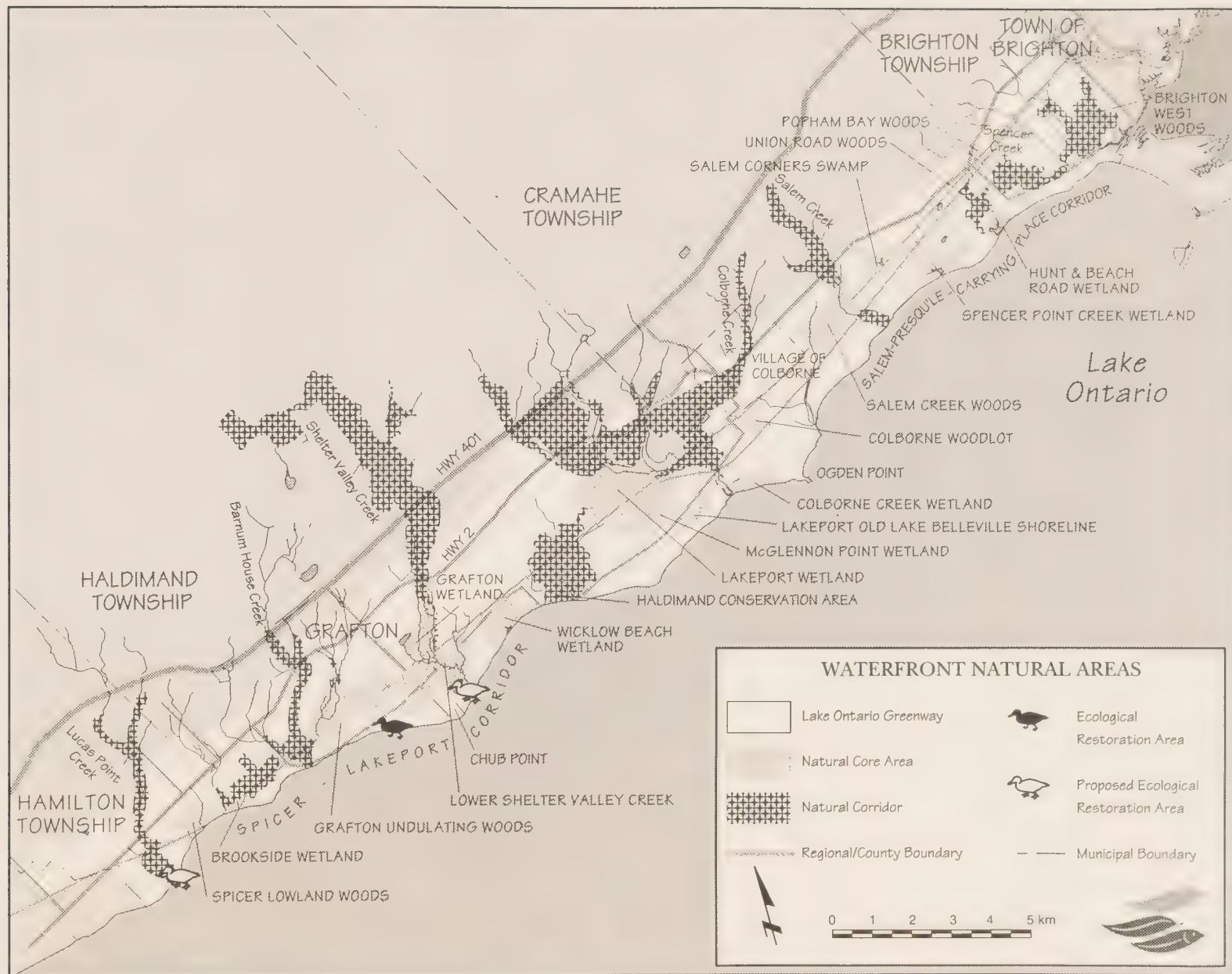


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES							GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****	
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor			Restoration
Town of Port Hope															
Port Hope Woods (116)	d, g, j		■	■						■			Proposed	Private	Residential
Monkey Mountain (117)														Public	Open Space/ESA
GANARASKA RIVER VALLEY CORRIDOR															
Ganaraska River (118) (south of Dale Rd.)	h, j	■						■			■		Proposed	Public	Open Space
GAGE CREEK VALLEY CORRIDOR															
GAGE CREEK MARSH – CARR MARSH CORRIDOR															
Gage Creek/Peter Rock Marsh #2 (119)	a, c, d, f, g, h, j	■	■			■	■	■	Local	■	■	■	Proposed	Public/Private	Open Space
Township of Hamilton – Town of Cobourg															
Carr Marsh (120)	e, g, h		■		Provincial Life Science	■	■	■	Provincial	■	■			Public/Private	Open Space/ESA
Cobourg Shopping Centre Wetland (121)									Local					Private	ESA/Residential
COBOURG CREEK VALLEY CORRIDOR															
Cobourg Beach – Cobourg Creek (122)	a, c, d, e, g, h, j	■	■			■		■	Local	Part		■	Proposed	Public/Private	Open Space
LUCAS POINT CREEK VALLEY CORRIDOR															
Lucas Point Creek (123) (south of Hwy 2)	h, j	■										■	Proposed	Private	Industrial/ Open Space/ Agricultural

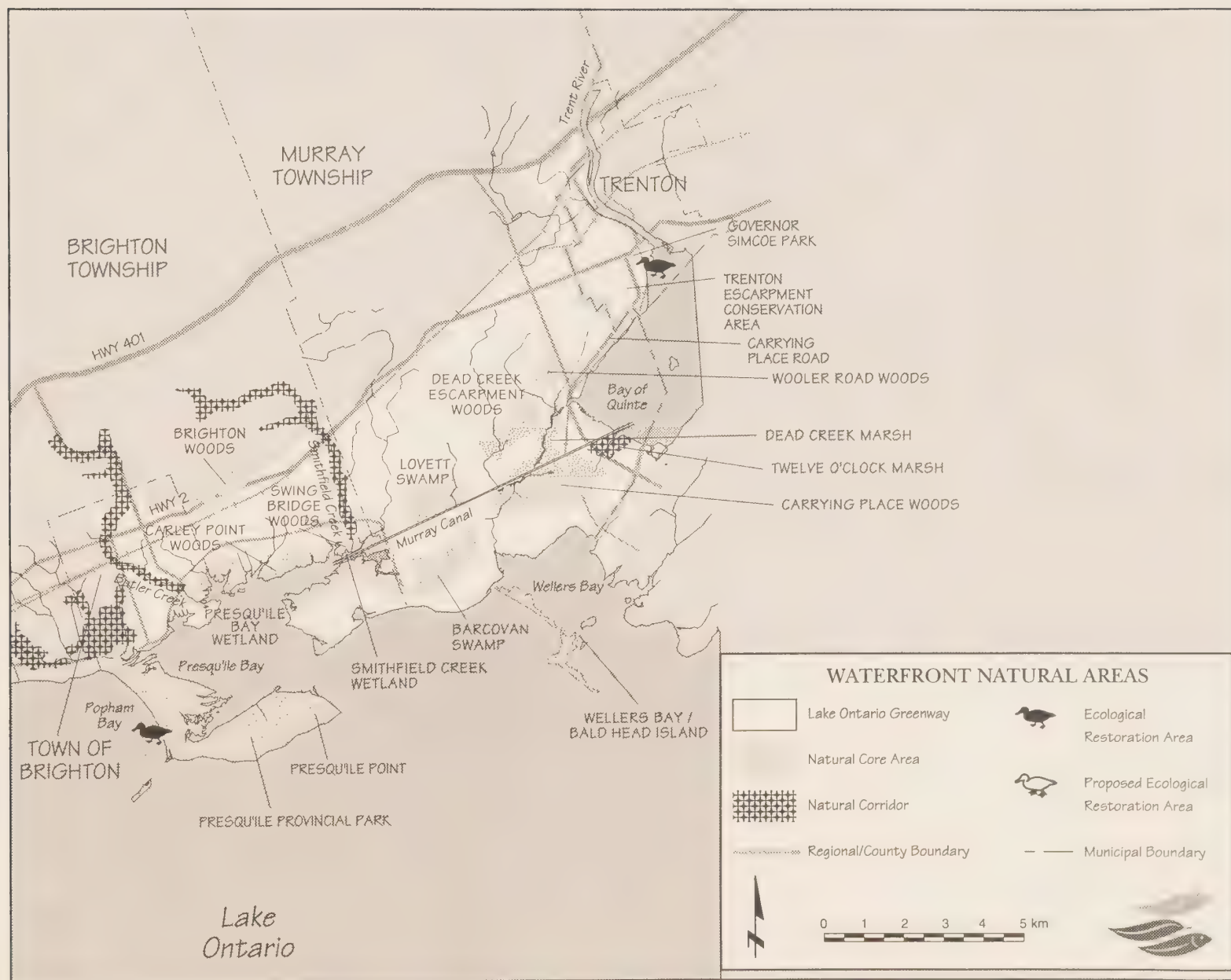


Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES								GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor	Restoration		
Township of Haldimand															
SPICER – LAKEPORT CORRIDOR															
Spicer Lowland Woods (124)	c, d, g, j		■	■				■		■	■			Private	Urban/Open Space
Brookside Wetland (125)								Local			■			Private	Agricultural/ Open Space/Urban
BARNUM HOUSE CREEK VALLEY CORRIDOR															
Bamum House Creek (126) (south of Hwy 2)	h, j	■				■		■			■	■		Public/Private	Open Space/ Agricultural/Urban/ ESA
Grafton Undulating Woods (127)	a, c, d, e, f, g, h, i, j		■	■			■			■	■			Private	Agricultural/ Residential/ Open Space
Chub Point (128)	d, f, g, j		■	■						■	■			Private	Agricultural
Grafton Wetland (129)	d, g, j	■	■	■			■		Local	■	■			Private	Open Space/ Agricultural
SHELTER VALLEY CORRIDOR															
Lower Shelter Valley Creek (130)	e, g, h, j	■	■			■		■	Local	■	■	■	Proposed	Private	Open Space/ Agricultural
Wicklow Beach Wetland (132)	a, c, d, e, f, g, h, i, j		■	■		■	■		Provincial	■	■			Private	Open Space/ Agricultural/Urban
Haldimand Conservation Area/ Wicklow Gravel Pit (133)	e, j								Local		■			Public/Private	Open Space/ Agricultural/Urban
McGlennon Point Wetland (134)	a, c, d, g, j		■	■			■		Local	■	■			Private	Open Space/ Agricultural
Lakeport Wetland (135)	a, b, d, f, g, i, j		■	■					Local	■	■			Private	Open Space/ Agricultural
Lakeport Old Lake Belleville Shoreline (136)	a				Provincial Earth Science					■				Private	Agricultural





Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES							GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****	
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor			Restoration
Cramahe															
COLBORNE CREEK VALLEY CORRIDOR															
Colborne Creek Wetland (137)	g, h, j	■			Regional Life Science	■	■		Provincial	■		■		Private	Open Space/ Resource Extraction
Colborne Woodlot (138)	a, d, e			■						■				Private	Agricultural
Loughbreeze Creek (139)	h, j					■	■							Private	Open Space/ESA/ Hamlet
SALEM-PRESQU'ILE-CARRYING PLACE CORRIDOR															
SALEM CREEK VALLEY CORRIDOR															
Salem Creek Woods (140)	b, c, d, e, f, g, h, i, j	■	■	■			■	■		■	■			Private	Open Space/ Agricultural
Salem Corners Swamp (141) (Salem Woods)	g, h, j			■			■	■	Local	■	■			Private	Open Space/ Agricultural
Spencer Point Creek Wetland (142)	b, c, d, e, f, g, h, i, j	■		■		■	■	■	Provincial	■	■			Private	Open Space/ Agricultural/Urban
Hunt & Beach Road (Popham Bay) Wetland (143)	a, d, e, g, j	■				■	■	■	Provincial	■	■			Private	Open Space
Union Road Woods	j			■				■			■			Private	Open Space/ Agricultural
Town of Brighton															
Popham Bay Woods	j			■				■			■			Private	Agricultural
Brighton West Woods	j			■				■			■			Private	Agricultural/Estate Residential
BUTLER CREEK VALLEY CORRIDOR															
Butler Creek (144) (south of Brighton)	h	■					■					■		Private	Open Space/ESA





Natural areas and CORRIDORS	SNA Criteria Met*	APPLICABLE COMPREHENSIVE POLICIES							GREENWAY DESIGNATIONS				Ownership	Official Plan Designation****	
		Valleys	ETV**	Woodland	ANSIs***	Shoreline	Wildlife Habitat	Corridor	Wetland	Core Area	Within an east-west corridor	Within a valley corridor			Restoration
Township of Brighton															
Presqu'île Provincial Park (145)	a, c, d, e, f, g, h, i, j	■		■	Provincial Life Science	■	■	■	Provincial	■	■		Underway	Public	Open Space
Presqu'île Bay Wetland (146)	c, e, f, g, h, i, j	■			Provincial Life Science	■	■	■	Provincial	■	■			Private	Open Space/ Residential/ Agricultural
Brighton Woods (147)	a, c, d, f, g	■		■						■				Private	Agricultural/Estate Residential
Carley Point Woods (148)	a, c, d, f, g, h, j	■		■		■	■	■	Provincial	■	■			Private	Open Space/ Agricultural/Urban
Swing Bridge Woods (149)	d, e, g, j	■		■		■		■	Provincial	■	■			Private	Open Space/Estate Residential/Urban
Boat Harbour (150)									Local					Private	Open Space/ Agricultural
SMITHFIELD CREEK VALLEY CORRIDOR															
Smithfield Creek Wetland (151)				■					Provincial	■	■			Private	Open Space/ Agricultural
Township of Murray															
Lovett Swamp (152)	a, c, d, g, j	■		■				■	Provincial	■	■			Private	Agricultural
Barcovan Swamp (153)	a, b, c, d, g, i, j	■		■			■	■	Provincial	■	■			Private	Agricultural
Carrying Place Woods (154)	b, c, d, e, f, g, i, j	■		■			■	■	Provincial	■	■			Public/Private	Open Space/ Residential
Dead Creek Marsh (155)	a, c, d, e, g, i, j	■		■			■	■	Provincial	■	■			Private	Open Space
Dead Creek Escarpment Woods (156)	a, d, g	■						■		■	■			Private	Estate Residential/ Agricultural
Wooler Road Woods (157)	a, c, d, e, g	■		■						■	■			Private	Industrial/Residential/ Agricultural
Young Cove (158)	e, f, j					■			Provincial					Private	Residential/ Industrial
Twelve O'Clock Marsh (159)								■	Provincial		■			Private	Open Space
Wellers Bay/Bald Head Island (160)	d, e, f, g, h, j	■			Regional Life Science	■	■		Provincial	■				Public	None









**F**or centuries, the dynamic interactions of land and water along the Lake Ontario shore have created a variety of specialized landforms and plant communities, and supported an exceptional diversity of wildlife. The waterfront has also attracted large concentrations of urban development that in many cases have disturbed or seriously degraded the natural environment.

**How can we protect and regenerate the ecological integrity of the waterfront within the constraints and opportunities presented by a rapidly urbanizing region?**

*A Natural Heritage Strategy for the Lake Ontario Greenway* addresses this challenge by identifying a natural heritage system of core areas, corridors and restoration areas, associated ecological functions and processes, as well as strategies to protect, restore and enhance the ecological components of the Lake Ontario Greenway.



**Waterfront Regeneration Trust**

207 Queen's Quay West, Suite 580  
Toronto, Canada M5J 1A7

Telephone 416 314-9490

Facsimile 416 314-9497

